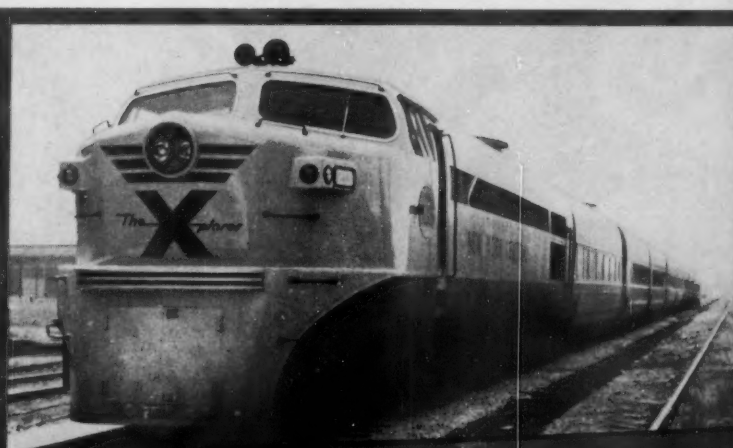
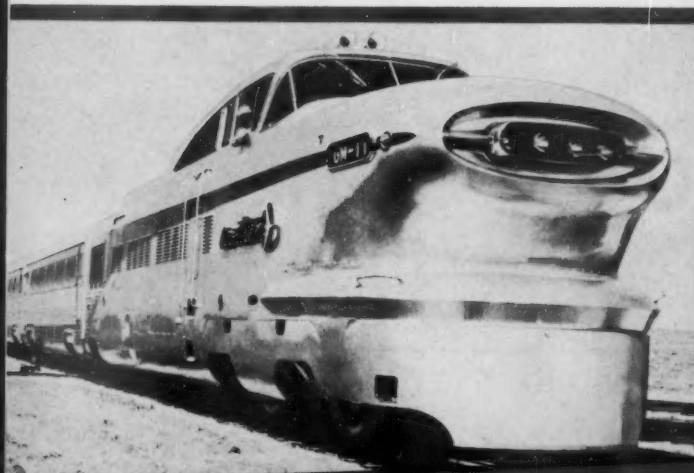


May 21, 1956

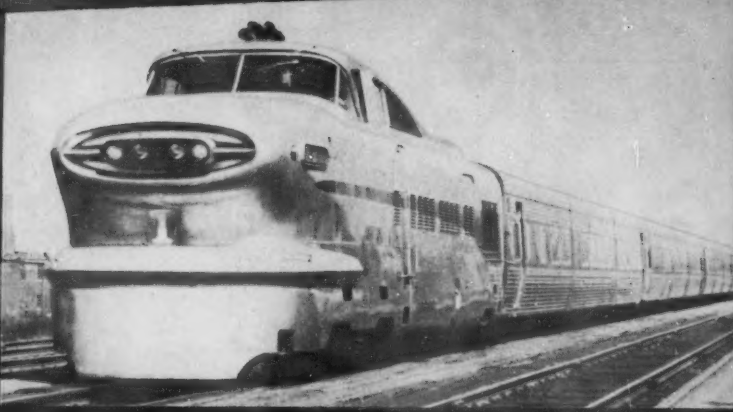
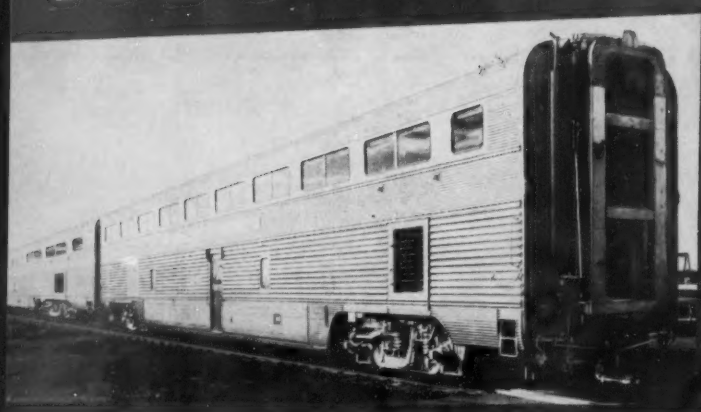
RAILWAY AGE

WORKBOOK OF THE RAILWAYS

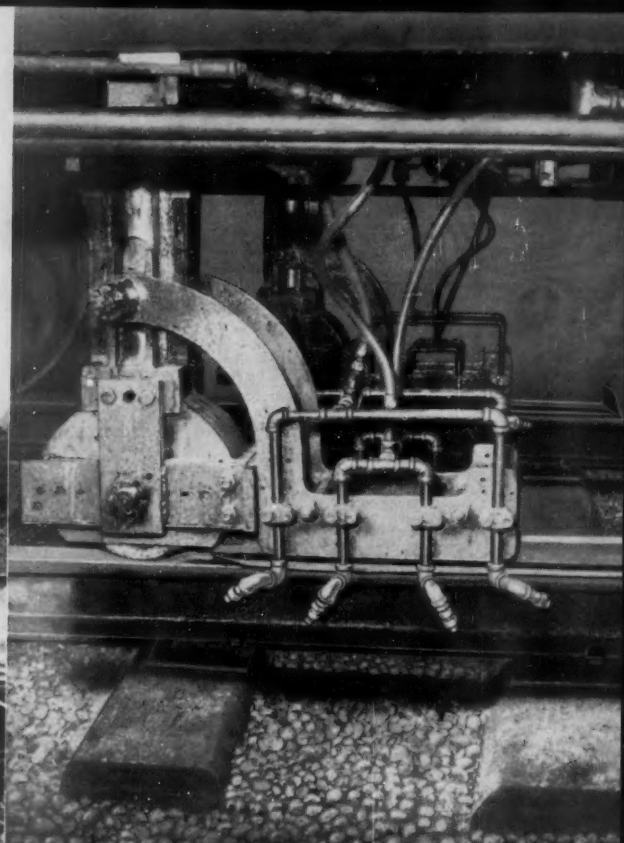
THE INDUSTRY'S ONLY WEEKLY NEWS MAGAZINE



1956 Passenger Progress



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- Taking a New Look at Passenger Markets p. 84
- Is the "Deficit" an "Accounting Phantom?" p. 86
- Sharpening Up the "Front Man" p. 90
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- Electronics Cuts Waiting for Reservations p. 103



2

sure *Nalco* ways

TO REDUCE TRACK MAINTENANCE COSTS . . .

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**WEED and BRUSH
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Nothing beats Nalco Chemicals for controlling weeds, brush and grass all season long.

There's an added advantage, too — Nalco assures the most economical application. With tank car lots of chemical you get free use of a modern Nalco spray car that gives precise dosage exactly where you want it on the right-of-way. And in yards, or other congested areas, Nalco's on-track or off-track mechanical spreaders give excellent distribution of granular H-174. Packaging in 100 pound fibre drums assures convenient handling of this effective herbicide.

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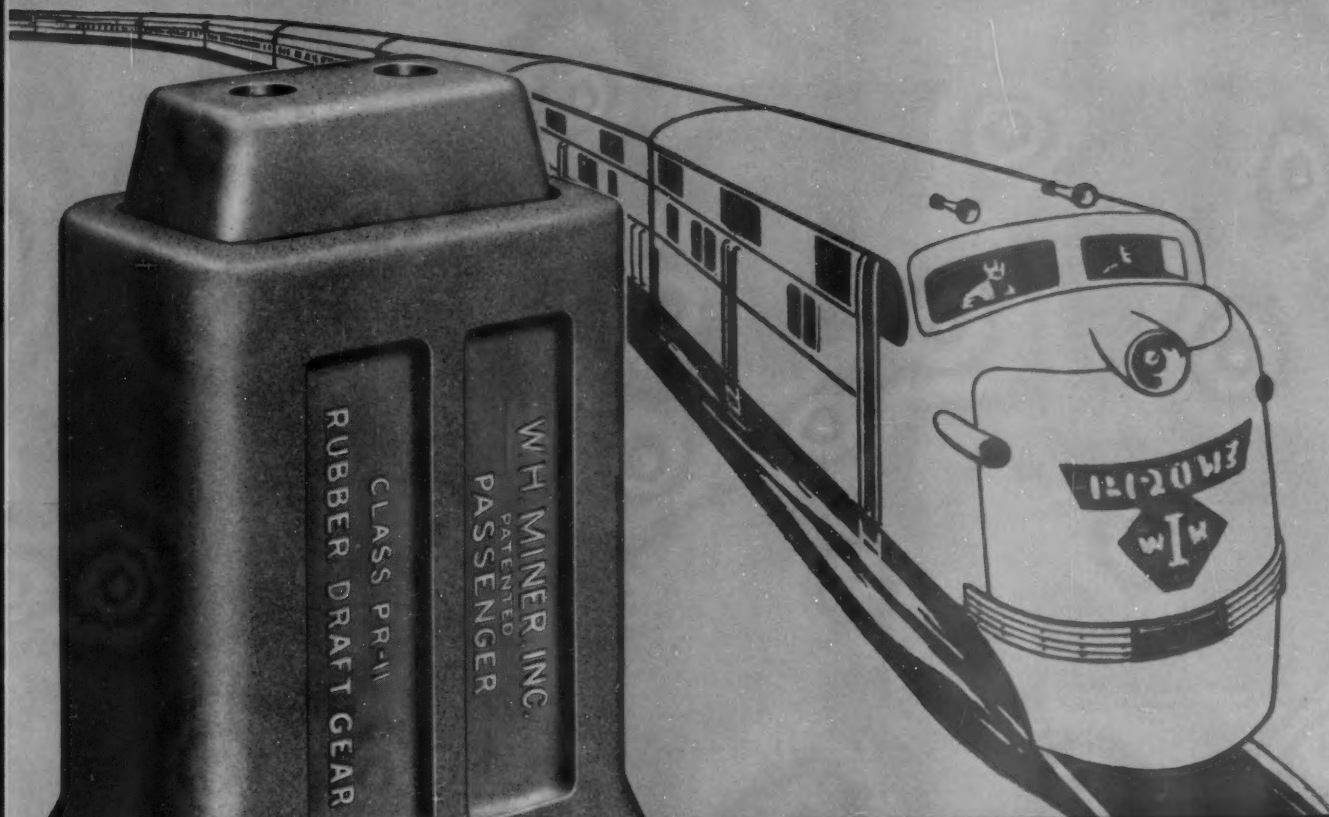
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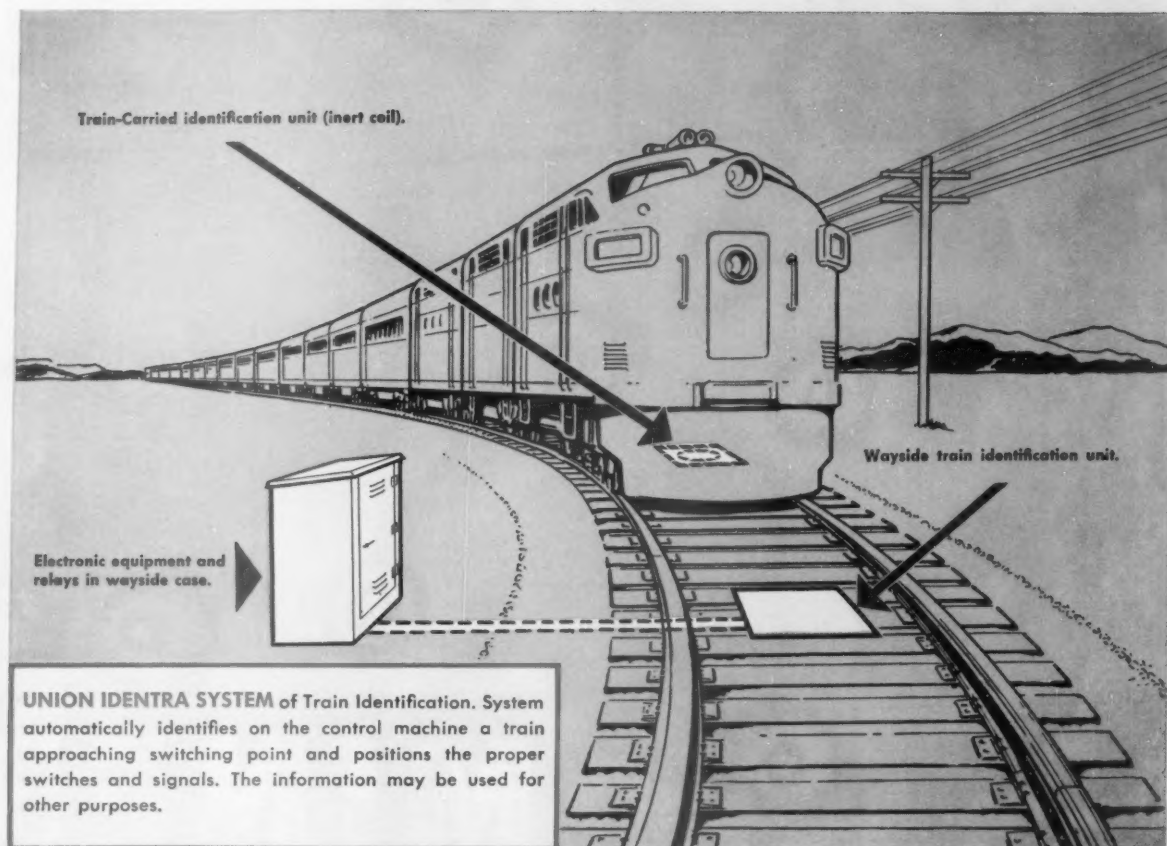
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IN PASSENGER SERVICE**

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A recent and important addition which has already been proved in service, is UNION IDENTRA

Train Identification. This system automatically identifies trains as they pass selected wayside locations. It will automatically position track switches and clear signals for proper route, identify on the control machine the entering and leaving trains at the terminals, and announce the

class of trains, local or express, by means of illuminated signs or an automatic announcing system.

With these tools, which have been developed to reduce operating costs, the railroads can have automation. With other costs rising, the only answer is—*more automation!*



Vol. 140, No. 21

May 21, 1956

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London E.C. 2, Eng. 48 Sibley Field Pub-
London Wall lishing Co., Ltd.

Frankfurt am Main (16), International Ad-
West Germany, Wittel- vertising Agency
sbacher Allee 60

Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn. James G. Lyne, president. Arthur J. McGinnis, executive vice-president and treasurer. J. S. Crane, vice-president and secretary.



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Truckers state their case . . .

. . . on Cabinet Committee proposals in appearance before House subcommittee. . . . p.8

FORUM: An axe and a needle . . .

. . . both instruments, judiciously applied, would do things for the railroads' ailing (in the net income category) passenger business. There's nothing wrong with the industry's physical and economic capacity to produce transportation of persons—there are some accounting and political and competitive conditions that require remedying if that capacity is to be employed profitably. . . . p.79

What are the "lightweights" possibilities . . .

. . . in terms of customer appeal, cost reduction, service advantages, and practical considerations? . . . p.80

Taking a new look at their markets . . .

. . . could yield the railroads better returns from some of their passenger operations. Conditions are changing and the rules that applied with steam operations in the low-wage era may be all wrong for 1956. . . . p.84

An "accounting phantom" . . .

. . . that's what one authority in transportation economics calls the ICC's arbitrary passenger deficit. It's high time, he says, to get a new yardstick to measure the real value of railroad passenger service. . . . p.86

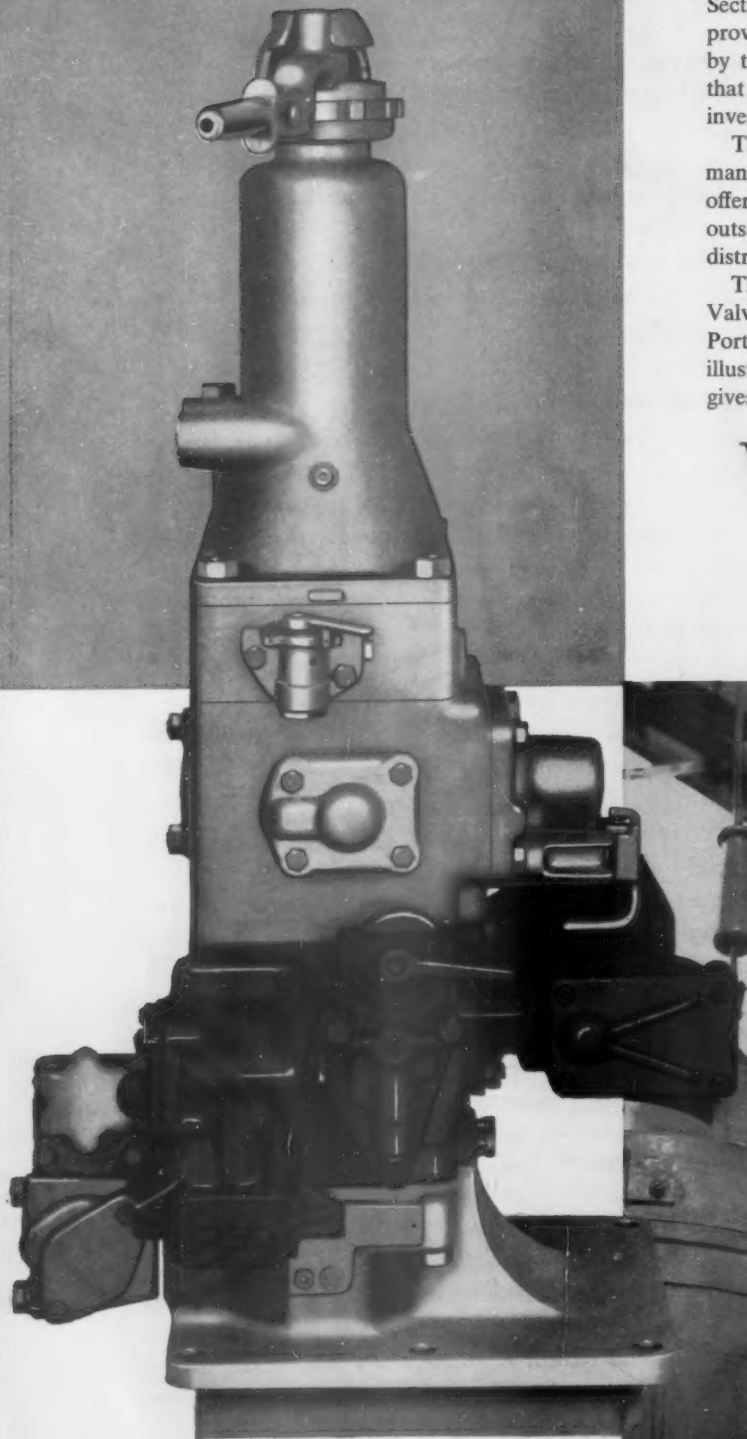
More dash in the diner . . .

. . . is simple salesmanship—making a "loss leader" pay—in terms of customer satisfaction. . . . p.88

The "front man" is the railroad . . .

. . . so far as the average passenger is concerned, and one

24 RL—the road locomotive brake that can be kept modern



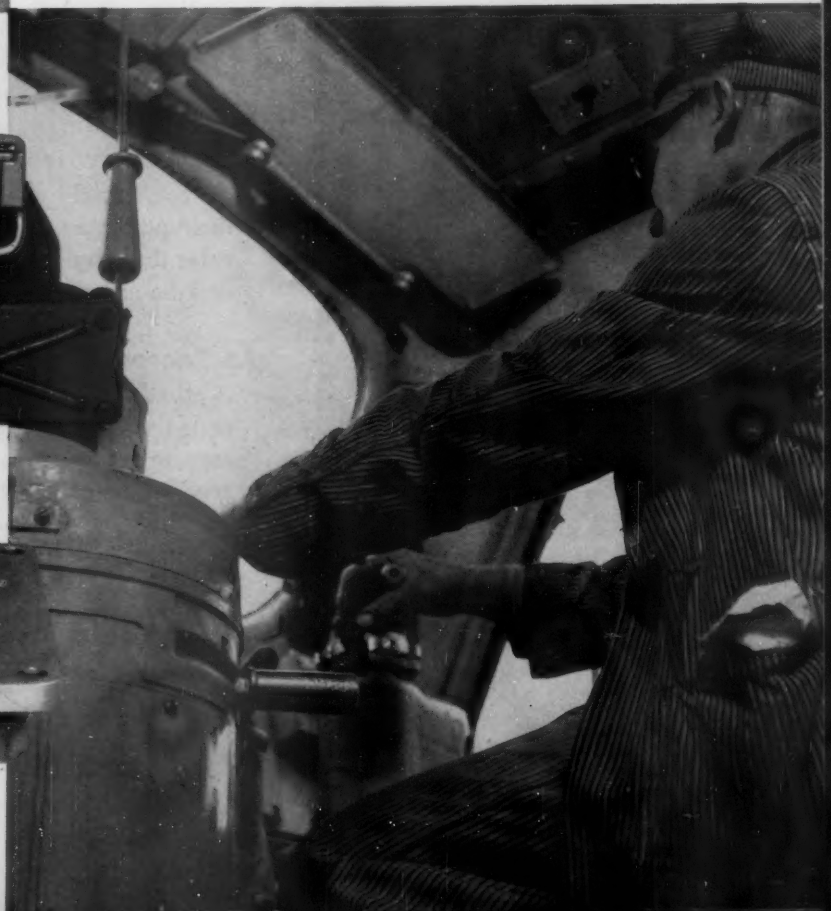
Sectional construction, as followed in the 24 RL Brake Valves, provides for the addition of new or improved functions merely by the substitution of sections. The advantage, of course, is that the brake equipment can be kept modern with minimum investment as compared to entire brake valve replacement.

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This feature can be incorporated in any D-24 Type Brake Valve now in service by replacing the existing Filling Piece Portion with the Conversion Filling Piece shown in color in the illustration. Write for our Circular Notice No. 1130 which gives complete details.

Westinghouse Air Brake COMPANY

AIR BRAKE DIVISION  WILMERDING, PENNA.



Current Statistics

Operating revenues, three months	
1956	\$2,535,561,742
1955	2,307,923,152
Operating expenses three months	
1956	\$1,980,694,846
1955	1,767,777,513
Taxes, three months	
1956	\$269,326,709
1955	242,996,101
Net railway operating income, three months	
1956	\$218,900,246
1955	235,067,723
Net income, estimated, three months	
1956	\$163,000,000
1955	176,000,000
Average price 20 railroad stocks	
May 15, 1956	107.52
May 17, 1955	92.97
Carloadings revenue freight	
Eighteen weeks, 1956	12,720,044
Eighteen weeks, 1955	11,810,467
Average daily freight car surplus	
Wk. ended May 12, 1956	5,982
Wk. ended May 14, 1955	13,569
Average daily freight car shortage	
Wk. ended May 12, 1956	7,378
Wk. ended May 14, 1955	5,861
Freight cars on order	
May 1, 1956	137,436
May 1, 1955	17,930
Freight cars delivered	
Four months, 1956	20,972
Four months, 1955	10,013
Average number of railroad employees	
Mid-April 1956	1,048,111
Mid-April 1955	1,011,753

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Week at a Glance CONTINUED

of the biggest passenger carriers has some new ideas to put the heat on employees who meet the public to make sure that they *sell* the railroad effectively. . . . p.90

What's happening in passenger traffic? . . .

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Commutation business is a noose . . .

. . . around some roads' necks, but there are ways to loosen the rope. . . . p.95

Quick turnabout . . .

. . . is one of those ways, and here is a case history where one road has found out how to turn a loss into a profit over out-of-pocket commuter-run costs. . . . p.97

Let the customer write the ticket . . .

. . . like the air lines do. That's one industrial travel arranger's advice. The competition does it—why can't the railroads follow suit? . . . p.98

Full value for their money . . .

. . . is what the passengers expect, and there's proof that attention to little things pays off. . . . p.101

Good track makes a good ride . . .

. . . and big investments in new trains depend on the passengers' comfort to stay in the black. . . . p.102

No waiting for reservations . . .

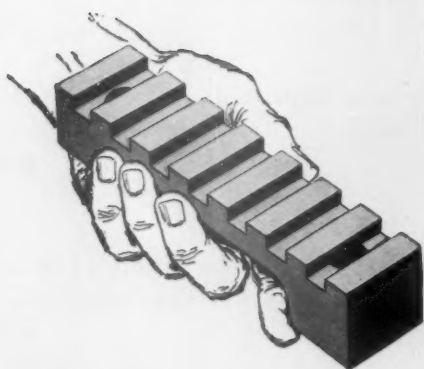
. . . as the New York Central, New Haven and Santa Fe join forces to give passengers coast-to-coast Pullman and coach seat reservations within seconds. . . . p.103

BRIEFS

Narrow-gage line in the Black Hills . . .

. . . Black Hills Central Railroad is scheduled to begin passenger service July 4, with South Dakota's Governor Joe Foss at the throttle of ex-White Pass & Yukon locomotive No. 69. A little-used Burlington mountain spur line near Mount Rushmore National Monument will be the site of this five-mile, steam-operated, 3-ft-gage commemorative frontier railroad.

Improve the efficiency of any journal lubricator with Magnus R-S JOURNAL STOPS



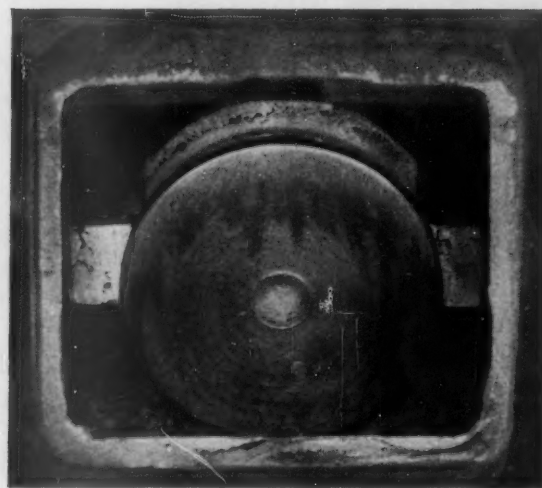
Longer bearing life and lower maintenance costs for trucks and journal boxes also yield big return on initial R-S Journal Stop investment

WITH conventional waste packing and Magnus R-S Journal Stops, you can run freight cars for *three years* between periodic servicing. That's been established by test experience to date.

Bolted to both sides of the journal box, the bronze bearing-metal Journal Stops form a permanent, built-in waste "container" that holds the mass of packing right where it belongs, even under severe braking and impact forces. And, unlike any other waste container or retainer, by keeping the bearing on the journal, you prevent short strands from being trapped beneath the bearing crown. By restricting fore-and-aft movement of the journal within the box, they prevent squashed-down waste packs, maintain constant journal-to-packing pressures, assure a uniform feed of oil to the bearing and eliminate danger of waste grabs.

But that's not all. You also get longer bearing life and freedom from spread linings. You reduce the requirements for an effective box rear seal and increase the efficiency and service life of present dust guards and seals. That's vital to the successful operation of most waste substitutes.

Pad and mechanical lubricators benefit too. By keeping



Here's proof of Journal Stops' unique ability to hold packing in place even under extreme service conditions. This unretouched photograph shows the interior of a Journal-Stop-equipped box after undergoing an 11½ mph flat-switching impact test. Waste is still firmly seated under the journal.

the journal in its proper position, you keep the box from rising during impacts and braking—don't crush the lubricator or seal. Axle dust guard seats can't be scored either.

WHAT ABOUT COST? One private car line estimates it has recovered more than 90% of the total cost of Stops and installation in just the first 20 months of operation. Other roads report comparable savings. R-S Journal Stops not only pay for themselves in reduced maintenance costs. They get cars to destination with trouble-free journal boxes. Write for complete information. Magnus Metal Corporation, 111 Broadway, New York 6 or 80 E. Jackson Blvd., Chicago 4.

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How TV Improves RR Operations

Recent applications include audio-video for space reservation and sales, as well as video for watching operations in freighthouses, at junctions in switching areas, and for "grabbing" and recording car initials and numbers

Details about new uses for closed-circuit television as a tool to improve railroad operations have just been revealed.

In these new applications, TV sets in yard offices, interlocking towers and elsewhere, are connected to cameras which act as "seeing eyes" to watch operations in areas beyond the range of vision of the yard clerk, freighthouse foreman, ticket seller, leverman, car inspector or ice dock foreman.

B&O Tests—Back in 1952 the Baltimore & Ohio conducted TV tests and demonstrations in Barr yard, near Chicago, for: (1) "grabbing" car numbers; (2) surveillance of remote yard areas, and, (3) with a TV camera in a pit under the track, to inspect running gear and brake rigging of cars and locomotives.

Since then, many other railroads have made tests and permanent installations, as the equivalent of a "seeing eye," to (1) watch switching areas; (2) observe station stop operations; (3) watch work being done in LCL houses; (4) inspect passing cars; and (5) to observe operations along car icing docks, as well as to grab car numbers. More and more applications will become evident as railroads investigate the possibilities.

In answer to recent inquiries, Railway Age received up-to-the-minute comments from officers on several railroads that have tested, or are now using, TV. Abstracts of their comments follow.

For Space Reservation and Sales—"Probably the most ambitious television installation conceived by any railroad is being built by our people for the ticket sales and service facilities under construction in Pennsylvania Station, New York," says W. G. Salmonson, assistant chief engineer, communications and signals

of the Pennsylvania. "We are to use 100 cameras, with 96 receivers, for transmitting information about space availability, as well as actual space assignments. This will be the first major audio-video installation in which the customer is a principal participant, along with the ticket seller and space distributor."

For Special Switching Areas

—Mr. Salmonson added that "when we consolidated interlockings at our passenger station in Pittsburgh, the train director at the new tower could not see the switch engine working at the post office. About 100 mail cars are switched daily at the post office, involving about 150 moves in which the switcher must enter main-line tracks, with switches and signals controlled from Pitt tower. To effectively coordinate movements in the area, a TV camera is focused on the four spur tracks running into the basement of the post office. This camera picks up the 'image' of the

switcher and tracks, and transmits it over a coaxial cable to be reproduced on the screen of a TV set on the train director's desk in Pitt tower."

Car-Checking—C. E. McCarty, manager of Potomac yard of the Richmond, Fredericksburg & Potomac, says that closed-circuit television is a big time-saver in "grabbing" car numbers. "We made the first permanent installation of TV for this purpose in January 1955. When each train from the south enters our receiving yard, it passes through a shed 40 ft long, which includes two TV cameras. Sixty 150-watt lamps in this shed give 50 to 75 foot-candles of illumination on the cars, and make it possible to obtain a clear TV picture under all weather and outdoor lighting conditions.

"As a train pulls through the shed, at about 10 or 12 mph, TV cameras 'grind away,' and the picture of the moving train is flashed to a TV screen



HOW A YARD CLERK uses TV to grab car numbers on an incoming train is demonstrated here by C. E.

McCarty, manager of the Richmond, Fredericksburg & Potomac's Potomac classification yard.

in the yard office, 1½ miles distant. Talking into a microphone, a clerk makes a tape recording of the numbers, initials and types of cars passing the cameras. Thus, TV does the job better, and up to an hour and a half sooner, depending on length of the train, than the three yard clerks previously required to check these inbound trains after they stopped. This TV project is saving about 40% annually on the cost, which was about \$33,000."

Surveillance in Yards—"Television can be used successfully for surveillance of an entire classification yard as large as 50 baseball fields," A. E. DeMattei, superintendent of communications, Southern Pacific, told Railway Age.

"In an experiment," he pointed out, "we tested TV with the ultimate aim of using 13 television cameras in a typical yard, to give the yardmaster a view of the entire yard. Daylight operation was satisfactory. In addition to conventional floodlighting, we installed, in a test area, some banks of 300-watt sealed-beam lamps, thus increasing illumination at track level to about 10 foot-candles, which was adequate for general sur-

veillance by television at night.

"At Roseville, Calif., we have tested a television installation by means of which the foreman in his office can watch the position of cars at the ice dock, and observe the icing work done along the entire dock."

In a Freighthouse—"We found another new use for TV," Mr. DeMattei said. "At our freighthouse in San Francisco, TV is being tested in a system whereby the warehouse foreman, in his office, can view distribution of loads in a freight shed 800 ft away. One fixed-position camera, which has a wide-angle lens, gives the foreman a view of the entire area of the warehouse not visible from his office. The other camera, of the 'pan-and-tilt type,' with a telephoto lens, offers a 'close-up' of any particular section of a large room that he may select. Thus, in addition to 'grabbing car numbers,' the SP has tested three other applications of television, and we will find more. I predict extensive use of TV on railroads within the next few years."

At Stations—"We have demonstrated that television can be used for viewing operations when trains are making station stops," reports C. O.

Ellis, general superintendent communications and signals, Rock Island.

"We learned this from a test at our Englewood passenger station in Chicago," Mr. Ellis explained. "The TV camera, in a weatherproof box, was on the station platform near the Pennsylvania crossing. Camera controls and a TV set were in the stationmaster's office. He could control the camera to turn in a complete circle, to view either the Rock Island or the Pennsylvania platforms, to watch loading and unloading of passengers and mail and express, so that he could accurately anticipate when a train would be ready to depart. Existing platform lighting was sufficient, the camera being able to provide a good picture with 20 foot-candles of illumination.

"In this test we transmitted the TV picture by microwave to our downtown general offices in LaSalle street station, six miles away. Thus we learned that, where distance is too great for economical use of cable, microwave can be used. In our opinion, closed-circuit television will soon have an important place on railroads, the same as telephones, radio and other communications media."

Truckers Oppose Cabinet Report Bills

House Interstate Commerce subcommittee also gets presentation from Railway Labor Executives' Association which supports railroads' rate-freedom program

The trucking industry, as represented by American Trucking Associations, has registered again its opposition to recommendations of President Eisenhower's Cabinet Committee on Transport Policy and Organization. It did so at the latest sessions of the hearings which a House Interstate Commerce subcommittee is holding on pending bills to implement the recommendations.

Meanwhile, the subcommittee received from the Railway Labor Executives' Association a presentation in support of the railroad industry's call for enactment of the Cabinet Committee's rate-freedom proposals (Railway Age May 14, p. 11). The subcommittee is headed by Representative Harris, Democrat of Arkansas. Its hearings have been in recess since May 11, but were scheduled to resume this week.

The ATA presentation was made by its general counsel, James F. Pinkney, John R. Turney, Washington, D. C. attorney, Clyde B. Aitchison, former member of the Interstate Commerce Commission, and John H. Frederick, head of the department of business organization at the University of Maryland. Mr. Turney formerly served on the staffs of the late Joseph B. Eastman when the latter was Federal Coordinator of Transportation and Director of Defense Transportation.

He asserted that the rate-freedom program recommended by the Cabinet Committee would result in "the most ruthless and destructive sort of economic warfare." He insisted that only if the ICC "is permitted to function as the arbiter of rate competition can truly dynamic competition be maintained."

On the basis of figures which he presented, Mr. Turney contended that if the railroads cut their freight rates enough to capture all cargo from the trucks, the railroads would have \$300 million a year less in net operating income than they now have. "The results," he added, "would be that over a billion dollars of increased revenues would be taken from the shippers of raw material and other non-competitive traffic and rebated to the shippers of the high grade manufactured traffic."

Meanwhile, Mr. Pinkney had said in his opening statement that ATA was unaware until the previous day "of the extent to which the railroads have withdrawn their active support from a great many of the Cabinet Committee recommendations dealing with the National Transportation Policy and with changes in the rate provisions of the present Interstate Commerce Act." His reference was to the railroad position that enact-

(Continued on page 10)

Carloadings Up.—Loadings of revenue freight in the week ended May 12 totaled 777,606 cars, the Association of American Railroads announced on May 17. This was an increase of 7,048 cars, or 0.9%, compared with the previous week; an increase of 24,961 cars, or 3.3%, compared with the corresponding week last year; and an increase of 100,066 cars, or 14.8%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended May 5 totaled 770,558 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, May 5			
District	1956	1955	1954
Eastern	127,916	126,560	112,214
Allegheny	154,520	147,141	116,847
Poconchos	64,915	60,137	46,146
Southern	131,505	110,117	116,132
Northwestern	118,977	116,142	98,212
Central Western	117,390	117,854	105,018
Southwestern	55,335	58,953	53,385
Total Western Districts	291,702	292,949	256,615
Total All Roads	770,558	736,904	647,954
Commodities:			
Grain and grain products	50,019	47,619	45,596
Livestock	7,481	9,002	7,990
Coal	136,812	116,885	98,702
Coke	12,864	10,856	7,185
Forest Products	43,964	43,848	40,090
Ore	75,349	67,088	48,869
Merchandise l.c.l.	61,035	60,406	61,658
Miscellaneous	383,034	381,200	337,864
May 5	770,558	736,904	647,954
April 28	778,398	725,900	647,925
April 21	763,437	701,432	626,182
April 14	742,053	670,304	612,884
April 7	685,397	659,217	606,790
Cumulative total, 18 weeks	12,720,044	11,810,467	11,104,174

In Canada.—Carloadings for the nine-day period ended April 30 totaled 104,143 cars, compared with 83,204 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 30, 1956	104,143	43,940
April 30, 1955	96,650	39,305
Cumulative Totals:		
April 30, 1956	1,307,634	599,766
April 30, 1955	1,160,845	533,646

► **SP Capital Outlay May Reach \$118 Million.**—Southern Pacific last year spent record \$117.6 million on capital improvements, and probably will spend that much or more in 1956, D. J. Russell, president, told stockholders at recent annual meeting; "we cannot just sit still, and we don't intend to," Mr. Russell emphasized; "capital expenditures—in some cases, huge ones—have been and are prerequisites of profits . . . without such things as our big dieselization program, new freight classification yards and centralized traffic control in recent years, our costs would be so high we would have very little net left."

New Equipment

FREIGHT CARS

► **April Orders Highest in '56.**—Orders for new freight cars rose to 6,559 in April, compared with 1,618 in March and 2,706 in April 1955, ARCI and AAR report; this was largest number of cars ordered so far this year; deliveries in April totaled 5,943 units, compared with 5,949 in March and 2,750 in April 1955; May 1 backlog was 137,436, compared with 137,070 on April 1 and 17,930 on May 1, 1955.

Type	Ordered Apr. '56	Delivered Apr. '56	On Order May 1, '56
Box—Plain	200	3,105	54,390
Box—Auto	0	0	2,100
Flat	102	203	5,522
Gondola	507	379	12,937
Hopper	2,750	1,337	41,114
Covered Hopper	1,252	351	5,895
Refrigerator	500	65	5,431
Stock	0	0	0
Tank	411	357	7,750
Caboose	0	25	221
Other	837	121	2,076
TOTAL	6,559	5,943	137,436
Car Builders	5,449	4,128	64,270
Company Shops	1,110	1,815	73,166

► **Canadian National.**—Ordered 3,150 cars costing about \$24,800,000; Eastern Car Company, Canadian Car & Foundry Co. and National Steel Car Corporation will each build 1,000 50-ton box cars; Eastern Car also will build 150 30-ton box cars for CNR's Newfoundland division; all cars, which are in addition to 1,980 units recently ordered are scheduled for delivery early in 1957.

► **Great Northern.**—Directors authorized purchase of 25 50-ton air-dump cars, 25 airslide cars; estimated cost \$675,000.

► **Ownership, Repair Ratio Decline.**—Decrease of 30,082 units in Class I road freight car ownership between April 1, 1955, and April 1, 1956, was accompanied by a drop of 47,839 in number of cars awaiting repairs AAR reports:

	April 1, 1956	April 1, 1955	Change
Ownership*	1,696,544	1,726,626	30,082 (d)
Waiting Repairs	69,570	117,409	47,839 (d)
Repair Ratio	4.1%	6.8%	2.7% (d)

*Excludes railroad-owned private refrigerator cars.

(More on next page)

► *Western Fruit Express Company.*—Plans to order 200 refrigerator cars, estimated cost \$3.4 million, including 50 50-ft 70-ton and 50 40-ft 50-ton mechanically equipped cars, and 100 50-ft 70-ton insulated bunkerless RB cars with damage free devices.

PASSENGER TRAIN CARS

► *Atlantic Coast Line.*—Ordered car shells—one each for baggage-dormitory car, dining car and baggage car—Pullman-Standard; approximate cost \$400,000; delivery expected late 1956.

► *Canadian National.*—Ordered 20 baggage cars, National Steel Car Corporation; approximate cost \$1,700,000; delivery expected first quarter 1957.

LOCOMOTIVES

► *Belt of Chicago.*—Ordered two GP-9 road switchers, Electro-Motive; one for delivery in June, the other in September.

► *Chicago & Eastern Illinois.*—Ordered four GP-9 road switchers, Electro-Motive; estimated cost \$680,000; delivery scheduled for first quarter 1957.

New Facilities

► *Canadian National.*—Studying yard revisions at Truro, N.S., to eliminate freight "bottleneck"; studies for proposed master terminal yard at Moncton, N.B., nearing completion.

► *Canadian Pacific.*—Ordered equipment from General Railway Signal Company for installation of remote control at Calgary, Alta.

► *Frisco.*—Construction projects authorized and under construction include: Four additional tracks for classification yard at President's Island, Tenn. (\$60,000); retire five miles of eastbound main track and install CTC, West Tulsa, Okla. (\$120,000); drill new deep well at Springfield, Mo., yard—work being done by Layne-Western Company, Kansas City (\$33,000); construct new East Belt connecting track at Springfield, Mo. (\$580,000); and remodel freight house, Oklahoma City (\$30,000).

► *Rock Island.*—Announced 13 construction and repair projects to cost estimated \$2,151,820; among larger ones are rehabilitation of bridge 1822 superstructure at Rock Island, Ill., jointly with U.S. government; repairs on bridge 3898 at Meade, Kan., and bridge 407 over Des Plaines river at Joliet, Ill.

► *Sacramento Northern.*—Will reconstruct bridge over Feather River between Yuba City, Cal., and Marysville, which was destroyed in last December's flood; cost \$1,000,000; contract for first part of work has been awarded to Ben C. Gerwick, Inc., San Francisco; new bridge is expected to be ready for service by September 1.

► *Spokane, Portland & Seattle.*—New construction projects, at indicated costs, include: relocation of facilities and revetment work at Wishram Yard (\$1,450,000); raise northern end of Celilo Bridge across the Columbia river by 5.3 ft, and convert one 319-ft fixed-truss span to a lift span (\$1,614,000), and revetment and placement of equalizer pipes between Milepost 108 and Milepost 120 (\$1,150,000); bids on preparation of 75,000 cu yds of crushed rock ballast at Whitcomb Pit have been called for—contract will be awarded sometime this month.

► *Union Pacific.*—New diesel and gas turbine servicing facilities being installed at Cheyenne, Wyo., to be completed by May 1957.

(Continued from page 8)

ment of the "three shall nots" was of greatest immediate importance. The "three shall nots" would prevent the ICC from considering the effect of a proposed rate on a competing mode of transportation.

Former Commissioner Aitchison's statement was designed to refute railroad contentions that the ICC has employed a fair-share-of-the-traffic approach in deciding competitive rate cases. Dr. Frederick's thesis was that enactment of the Cabinet Committee recommendations would result in "unjust discrimination" favoring "the big and powerful shippers." Mr. Pinkney was scheduled to complete the ATA case when the hearings resume.

The RLEA presentation was a statement filed by the association's chairman, George E. Leighty. His endorsement of the rate-freedom program included this comment: "All railway labor organizations have been deeply concerned for some time with the loss of railroad traffic to trucks and barge lines. We have seen the steady erosion of this traffic usually because competing rates are lower and we have seen consequent shrinkage in railroad employment and harm to the future of railroad men."

"Whatever the role of the Interstate Commerce Commission as to competition between the different forms of transportation is or may have been since the close of World War II, I think it is apparent that it is and has been wrong. The railroads have slipped in their traffic position and the trucks and barge lines have made spectacular gains. . .

"Congress should not sanction for one minute any rule of any commission or any interpretation which restrains the basic American right to engage in fair competition. While it may take a long time to thrash out all the other proposals, I hope the committee will see fit to move forward right away in progressing a bill which would strike down the obligation of any carrier to hold a rate umbrella over competing forms of transportation."

Rent-A-Car Service Expands Into Canada

Direct-line telephones soon will link 60 major railway terminals in Canada with car rental offices of the

Hertz Rent-A-Car System. Plans for this latest expansion in rail-auto service were announced May 11.

The new service is being installed under agreements with the Canadian Pacific and the Canadian National which cover 33 CPR and 27 CNR stations, coast to coast.

J. J. Stedem, Hertz executive vice-president, said the new arrangement will provide an added incentive to travel by rail. He pointed out that incoming rail travelers will be able to obtain a car within minutes after arrival, while departing travelers can use the new setup to make advance reservations for a car at their next stop.

In the United States, Hertz already has terminal concession agreements for the rail-auto plan with 17 major railroads.

Bernard F. Schmid Becomes ICC's Managing Director

Bernard F. Schmid has become managing director of the Interstate Commerce Commission. He succeeded E. F. Hamm, Jr., who had been acting managing director since January and who will continue to serve temporarily on a consultant basis.

Mr. Hamm, president of Traffic Service Corporation and publisher of its "Traffic World," was the commission's first managing director. He served in the position for more than



Bernard F. Schmid

two years, resigning as of last September 30. He was succeeded by Marion N. Hardesty, who resigned after less than two months service. At the commission's request, Mr. Hamm then returned to serve until a new managing director was selected.

Mr. Schmid came to the commis-

sion from the Department of Justice where he was Deputy Administrative Assistant Attorney General. He is 42 and has been in government service 22 years. He was born February 24, 1914, at Little Falls, Minn., and received his education at the South Dakota State School of Mines, Rapid City, S. D., and Columbus University, Washington, D. C.

Mr. Schmid was with the South Dakota State Highway Commission

for a year before he entered federal government service, in June 1934, as a senior accounting assistant with the Home Owners' Loan Corporation. From 1941 to 1946, he was with the Office of Price Administration as analyst and section head. He then served, in turn, with the former National Housing Agency and with the Bureau of the Budget. He became Deputy Administrative Assistant Attorney General in May 1954.

ICC Asks RDC Brake Tests

Report on investigation of February 28 collisions on Boston & Maine suggests comprehensive study by Association of American Railroads

The Interstate Commerce Commission has recommended that the Association of American Railroads conduct a series of tests, "which will be sufficiently comprehensive to determine the operational characteristics under adverse conditions" of the disc-type brakes with anti-wheel-slide devices in use on RDC cars.

The recommendation was made in the commission's report on its investigation of the two-rear-end collisions which occurred February 28 on the Boston & Maine, with the following train in each case consisting of RDC cars. The accidents occurred within about an hour of each other on the B&M's Portsmouth-Boston line at Swampscott, Mass., and Revere. The Swampscott accident resulted in the death of 11 passengers and the following train's two engineers, and the injury of 260 passengers and 10 employees. The Revere accident resulted in the injury of 132 passengers and 11 employees.

The commission's investigation was a formal proceeding, docketed as Ex Parte No. 200, and the report of Division 3 was by the division's chairman, Commissioner Clarke. Its finding as to causes of the accidents was that each was caused by failure to operate the following train in accordance with signal indications. Including this, the commission made eight findings. They were adopted by the Massachusetts Department of Public Utilities which participated with the commission in the hearing held in connection with the investigation.

Among the findings was one which said that in each accident the following train was being operated

at an "excessive rate of speed," and another which noted that, in the post-accident braking tests conducted March 30, the rate of deceleration obtained in both service and emergency brake applications was "very satisfactory." (Railway Age, Apr. 9, p. 10). The latter finding also said that the "efficiency and reliability" of the disc-type brakes involved have "proved satisfactory under normal operating conditions in various classes of service over a considerable period of time."

The commission then led into its recommendation that the AAR conduct comprehensive tests with this finding: "The tests conducted on March 30, 1956, are not conclusive as to the retardation which might be obtained under certain adverse conditions which occasionally occur and which have been reported to affect the rate of deceleration."

Heavy wet snow was falling when the accidents occurred, and the commission's feeling that the March 30 brake tests did not provide all the answers was pointed up in the report by this comment:

"During the investigation of these accidents two engineers testified that they had experienced difficulty in controlling the speed of this type of equipment under certain conditions. This commission has also received reports, both before and after the investigation of these accidents, that engineers on other railroads have experienced similar difficulty. From these reports it appears that some difficulty has been experienced which may have been the result of the functioning of the anti-wheel-slide devices, and that other diffi-

culty has been experienced which may have been the result of ice and snow on brake discs and shoes."

The anti-wheel-slide device involved is of the electro-pneumatic type. It consists of inertia devices applied to a journal box of each axle and connected in such manner that an excessive rate of deceleration of any pair of wheels closes electrical contacts which actuate an electric solenized valve in the control box to release air from the brake cylinder, and, under control of a time relay, reopen the circuit to reapply air to the brake cylinder after a predetermined time interval. During service application of the brakes, each operation of the anti-wheel-slide device will actuate the sanding apparatus for a three-second interval and will cause sand to be deposited on the rails in front of the front wheels of the truck. Automatic sanding of the rails during an emergency application of the brakes is provided and functions for a period of 30 seconds during such applications.

When the anti-wheel-slide device comes into operation, sanding of the rails is then necessary to restore the wheel to normal rotation, the commission noted. It added: "It has been observed in the operation of these units under unfavorable rail condi-

tions that if the sanding devices of a unit fail to deliver sand when required, the deceleration of the unit may be impaired by repeated operation of the anti-wheel-slide devices."

The report also cited instructions issued by the B&M as evidence that the road "is aware that this type of brake equipment is affected by weather conditions." The cited instructions said braking actions for slow-downs or stops should be started "sooner than usual" when weather conditions are bad.

Meanwhile, the commission said of the Swampscott accident that it was "improbable" that the following train could have been stopped short of the point of the accident in view of its "excessive rate of speed," put at 40 to 55 mph. The report added, however, that there should have been a "considerable reduction" in the speed of this train "if an effective brake application had been obtained." There was no evidence that the engineer made a brake application, but he left his seat, and thus removed his foot from the safety-control pedal.

The speed of the following train in the Revere accident was variously estimated as from 5 to 30 mph. This train's engineer testified that the stopping distance of his train was

"considerably extended" by action of the anti-wheel-slide devices. The commission's formal finding as to that was the stopping distance "may have been" thus extended. Meanwhile, it had made the finding, noted above, that speeds of both following trains were excessive.

Other findings said the signals were functioning properly, but were so obscured by snow as to bring into play operating rules restricting all trains in the territory to 15 mph. The preceding trains were operating on that basis.

In the Swampscott accident, the preceding train was No. 214, a first-class passenger train consisting of a diesel-electric locomotive, five coaches and a combination baggage-smoking car, all of steel construction. The following train was No. 2406, a first-class passenger train consisting of four RDC cars. In this accident, the underframe of the rear car of No. 214 overrode the underframe of the first unit of No. 2406, shearing off the latter's superstructure from its front end to within a few feet from the rear. This accident occurred at 8:18 a.m.

The Revere accident occurred 6½ miles down the line at 9:29 a.m., and the preceding train there was No. 2206, a first-class passenger train consisting of a diesel-electric locomotive, four coaches and one combination baggage-smoking car, all of steel construction. The following train was No. 2208, consisting of two RDC cars. Equipment of both trains was damaged, but none of it was derailed.



"Railroad Day" Celebrated in Kansas City

Inspecting their "diner tickets" before the Chamber of Commerce luncheon which highlighted Kansas City's May 2 "Railroad Day" program are, left to right, W. N. Deramus, III, president, Chicago Great Western; S. L. Burbridge, Kansas City traffic man-

ager, Colgate-Palmolive Company; and W. N. Deramus, president, Kansas City Southern. Union Pacific Vice-President J. P. Lynch, who addressed the luncheon, pointed out that railroads pay \$10,500 a day in taxes in the Kansas City area.

ICC Explains Action In Ex Parte 196

The Interstate Commerce Commission has issued a report supporting its March 2 order which authorized the Ex Parte 196 increase in freight rates. The order accompanying the report modified the March 2 order to impose a new hold-down which limits the 6% increase on cotton to a maximum raise of 9 cents per 100 lb.

The increase, which became effective March 7, amounts generally to 6%, with exceptions and hold-downs (Railway Age, Mar. 12, p. 7). The railroads estimated that the annual yield would be about \$475 million, an estimate with which the commission's staff agreed.

Meanwhile, the commission dis-

agreed with railroad statistical evidence indicating that expenses had increased by \$591 million annually since the previous general increase in freight rates in 1952. The commission put the expense increases at approximately \$500 million.

The commission added that, "giving all the consideration that this record warrants to possible absorptions of a portion of these increased costs from increase in efficiency and in the volume of the freight traffic, and to the fact that a portion of these increased costs may be ascribed to the passenger train service, it is clear that the railroads are in need of additional revenue from their freight service."

"We conclude," the commission declared, "that the petitioning rail-

roads, freight forwarders, and water carriers subject to our jurisdiction, were and are in need of the additional revenues from their freight service, as reflected in our findings herein, in order, as the Act requires, to enable them to provide, in the public interest, adequate and efficient transportation service to meet the needs of commerce and the national defense.

"We have endeavored in this proceeding to afford petitioners an opportunity to obtain the additional revenue required to meet these statutory objectives from their interstate operations as promptly as is consistent with giving shippers and other interested parties an opportunity to be heard. These parties took full advantage of this opportunity."

In its discussion concerning application of the straight 7% increase sought by the railroads to all rates on agricultural products without exception, the commission noted that the railroads "recognize the existence of a farm problem at the present time, but insist that the cost of any steps to alleviate that situation should be borne generally by the taxpayers."

The commission found that any general exemption of agricultural products would seriously reduce the revenues needed by the railroads to meet the transportation needs of the nation. It added it was impressed by the argument of the railroads that they should not be called upon to finance relief for the farmer by fore-
(Continued on page 103)

Railroading After Hours

Getting the Public With the Railroads

Here's the substance of a timely opinion on the passenger situation, passed along to me a few days ago in Chicago by F. B. Whitman, president of the Western Pacific:

"The first step in successful public relations should be to make passenger service generally acceptable. That is the place where people come into direct contact with the railroads—and, unless they like the railroad's passenger service, there's mighty little that can be done by advertising or speech-making to make them friends of the railroads."

Mr. Whitman hastened to explain that, by making passenger service "acceptable," he did not overemphasize spending money for a lot of costly improvements. Nor would he mean providing more service than the public is willing to buy. Instead he had in mind, primarily, the "little things"—cleanliness, courtesy, on-time performance, efficient ticketing, attention to all the details which make the difference between satisfaction and irritation.

A few days after I'd been talking to Mr. Whitman, I tried his opinion

by
James G.
Lynne



Editor,
Railway
Age

out at a meeting of a half-dozen railroad public relations officers—and not one of them disagreed. One of them, indeed, made the additional point that favorable public relations for the railroads as a whole is closely related to a favorable opinion about passenger service as a whole; that one bad apple will spoil the whole barrel.

As usual, Mr. Whitman had more than one stimulating idea to pass along.

Besides his point about passenger service, he raised another one somewhat as follows—

What every railroad needs is some yardstick to tell it, operation by operation, whether it is securing as high an output per man-hour as might reasonably be expected.

Comparing Railroads

The attainment of such standards of measurement, he admitted, is a tough assignment—because you can't

take one railroad's output per man-hour (say in yards, on trains, or in shops) and compare the figure fairly with that of another railroad where circumstances are widely different.

But you can develop men—if they've been around enough and have made the effort to develop the necessary skill—who can size up a given situation and come pretty close to an acceptable "par" figure for any particular operation.

There are a lot of railroads which are making money—from which fact, said Mr. Whitman, it is much too easy to jump to the conclusion that they are doing a pretty good job of railroading. But that conclusion isn't necessarily so—any more than it would be to decide that the management of a railroad with poor earnings is doing a poor job.

On the contrary, it could be that a railroad which isn't making much money is doing a very good job indeed—in ratio to its potential. But in every case the question to be answered is: *What is output per man-hour in relation to maximum potential?*—a figure which will vary widely from road to road as well as at different places on the same road.

A black and white photograph of a railroad track. In the foreground, a set of tracks runs diagonally from the bottom left towards the upper right. The tracks consist of steel rails and wooden ties. To the left of the tracks, there is a pile of gravel or crushed stone. In the background, a large, dark, industrial structure, possibly a train car or a bridge, is visible. The overall scene is industrial and emphasizes the quality of the steel used in the trackwork.

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Questions and

Of current interest

Answers

to the Transportation Department

A correspondent has questioned as "best" our solution to the Car Service "quiz" which was published in this column, March 12. (The answers appeared in this space, April 23.) Do we still think our answers were the best ones after receiving his suggestion . . .

?

Yes—our solution was "best"

Here's a portion of a letter from our reader, who does not think our answers to the March 12 Car Service "quiz" were the best ones. He writes:

"I think your March 12 'quiz' on Car Service Rules clearly shows the difficult position of forces charged with selection of proper ownerships of cars for loading when they have no knowledge of the routing of the load.

"Although I thought I had exercised something more than casual care in following the intent and principles of Car Service Rules in my

answer to the 'quiz,' the April 23 Railway Age shows I would have used six of the cars contrary to what you term the best usage.

"A check of the mileage from destination to owners' rails on the six cars, the use of which you and I disagreed on, follows. These figures were taken from the Official Guide. I realize as many different results are usually obtained from such compilations as there are persons figuring them. But the difference in the totals of the six cars as between loading you suggest and mine is greater than expected.

Destination	Your Selection		My Selection	
	Car	Miles to Owners	Car	Miles to Owners
Akron, Ohio	ITC	373.1	CRR	392
Dallas, Tex.	CS	488	FWD	0
Fort Wayne, Ind.	CRR	445.6	ITC	172.8
Little Rock, Ark.	KCS	144.3	ATSF	235.6
Oklahoma City, Okla.	ATSF	0	CS	393.3
Shreveport, La.	FWD	192.9	KCS	0
TOTAL		1,643.9		1,193.7

Where did I err?

"Incidentally, I was interested in your showing Rule 2 (B) as authority for the loading of the GN car to Fargo. As I read Section B the first sentence covers the disposition of a Rule 2 car at a junction with the home road when there is no loading

via the home road. The other sentence outlines the use of an intermediate line for return of a Junction Rule 2 car to owners when empty at a junction with the owners. Perhaps the authority rests in the first question and answer under 'Interpretation.'"

CONDUCTED By G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.

We considered this correspondent's solution as correct in rating the returns although it did not agree 100% with ours.

The principal difference in the selections was that we used the C&S car to Dallas and the FWD car to Shreveport. Our correspondent used the C&S car to Oklahoma City, and the FWD car to Dallas.

Our selection was based on the

fact that the C&S and FWD are treated as system cars on home lines, and a C&S car released at Dallas on the FWD is to all practical purposes at home.

Rule 2 (B) applies to all Rule 2 cars at junction point with the owner road. It would be proper to route the car to the Great Northern at Billings or at any other junction. Rule 2 B is applicable.—G. C. R.

Where Do Railway Executives Get Their Convention News?

Want a quick fr'instance? Take the AAR Mechanical Division Convention . . . coming up June 26-28 in Chicago. RAILWAY AGE's June 18 issue—*Pre-Convention Number*—will carry the whole program plus up-to-the-minute news on significant mechanical subjects. This one—and the June 25 issue—will be distributed hot off the press to convention-goers.

Next comes the report on what happened . . . a full digest on the high spots of all convention activities. Watch for it . . . in the July 9 issue.

June 18 and July 9 hit the AAR Electrical Section Convention *before and after* . . . plus the exhibit of the Railway Electric Supply Manufacturers Association. If you can't make the show . . . make sure you catch up with it in RAILWAY AGE.

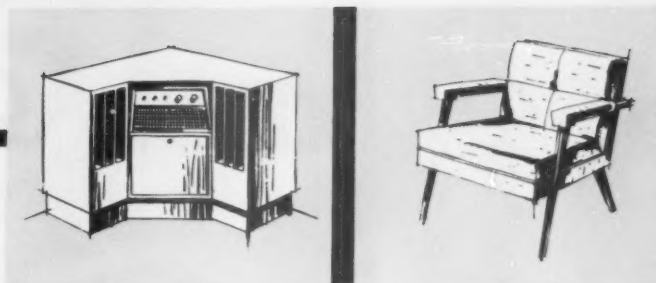
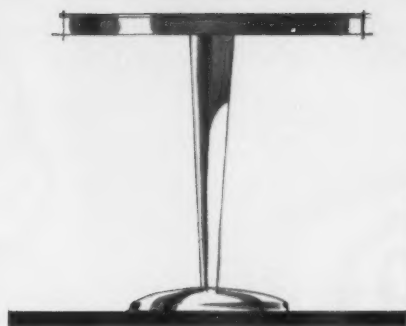
Railway men get their convention facts fast in RAILWAY AGE. But that's only part of the story. Here in the pages of this swift-moving newsweekly they're atop all the trends, fresh developments, better operating methods that help them do a better job in railroading. Which makes it *a good book to read . . . a good place to sell* railroad management. That's it . . . RAILWAY AGE!

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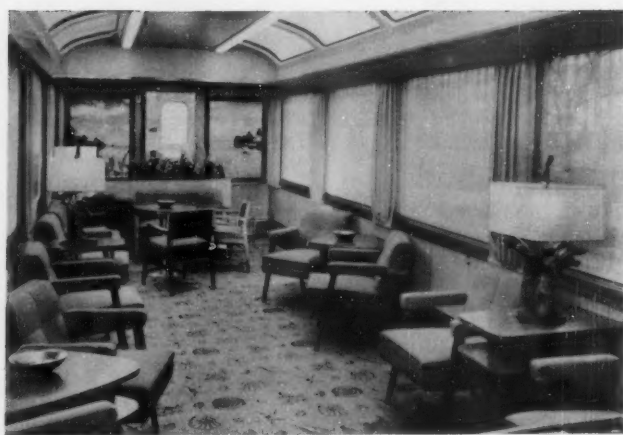
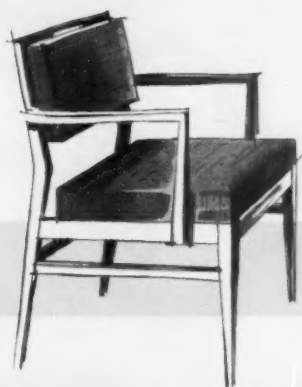
Workbook of the Railways





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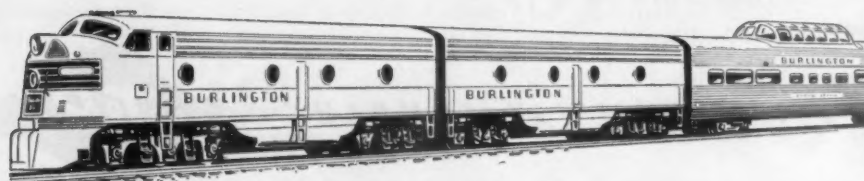
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J. J. ALMS, General Passenger Traffic Manager, Chicago



**Burlington
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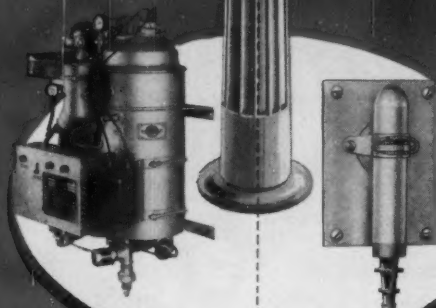


VAPOR
low-weight...
low-maintenance
HEATING

for America's
newest
LIGHTWEIGHT TRAINS

At right...the Vapor
"WATCHMAN" Heater.

At far right...the Vapor
"RADOR" Mercury Modulating
Control.



Selected for lightweight, efficient
design, for low-cost and
easy-maintenance operation...
Vapor WATCHMAN and Vapor
MODU-LECTRIC...are the perfect
complement to modern railroading's
exciting, new trains.

the TRAIN X

Pullman-Standard's dramatic, new lightweight train is fully equipped with Vapor's *Modu-Lectric System*—electric radiator panels, completely invisible to passengers. A single set of electric heating units provides 2-step heating—either one-third or full capacity—reducing weight and installation costs.

the TALGO

American Car and Foundry's modern lightweight train also uses the efficient, dependable Vapor *Watchman*. Circulating heated water at approximately 10 g.p.m., the *Watchman* has an output of 125,000 b.t.u. per hour, is fully guarded in all phases of operation by full safety controls.

the TUBULAR

On the well-known Budd Tubular Train, heating is accomplished electrically with Vapor's "packaged unit" heaters. Even temperature—within less than 2° variation—is maintained throughout each car, regardless of outside weather conditions.

the AEROTRAIN

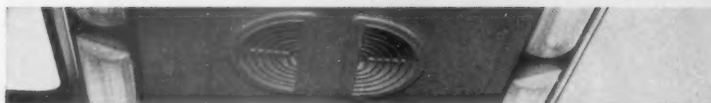
On General Motors' Electro-Motive Division train, the famous Vapor *Watchman* protects and comforts passengers automatically, in any weather. The *Watchman* fits into a space only 18" x 25" x 39"—weighs only 250 pounds—is available in horizontal, vertical and suspended models.

For complete information on these modern developments in train heating—either the Vapor *Watchman* or Vapor *Modu-Lectric* or both—simply wire Vapor, Chicago, Collect.

VAPOR HEATING CORPORATION

80 E. Jackson Blvd., Chicago 4, Illinois

NEW YORK • ST. PAUL • WASHINGTON • PHILADELPHIA • ATLANTA • SAN FRANCISCO • HOUSTON • RICHMOND • LOS ANGELES • ST. LOUIS
IN CANADA: Vapor Car Heating Co. of Canada, Ltd., 65 Dalhousie St., Montreal 3, Quebec
Vapor Export Corporation • Vapor International Corporation, Ltd. • Room 1400, Railway Exchange Bldg., Chicago 4, Illinois



THIS IS THE TRAIN THAT HAS EVERYTHING!



It is the only train between Chicago and the North Pacific Coast that offers you four Vista-Domes . . . the attention of a friendly Stewardess-Nurse . . . the fascinating Traveller's Rest buffet-lounge . . . plus truly superb meals. This train is the . . .

VISTA-DOME

***NORTH COAST
LIMITED***

One of the world's *Extra Fine* trains!

The view's terrific on Northern Pacific! Send now for "Northwest Adventure", free booklet of scenic trips. Write G. W. Rodine, 232 Northern Pacific Railway, St. Paul 1, Minn.



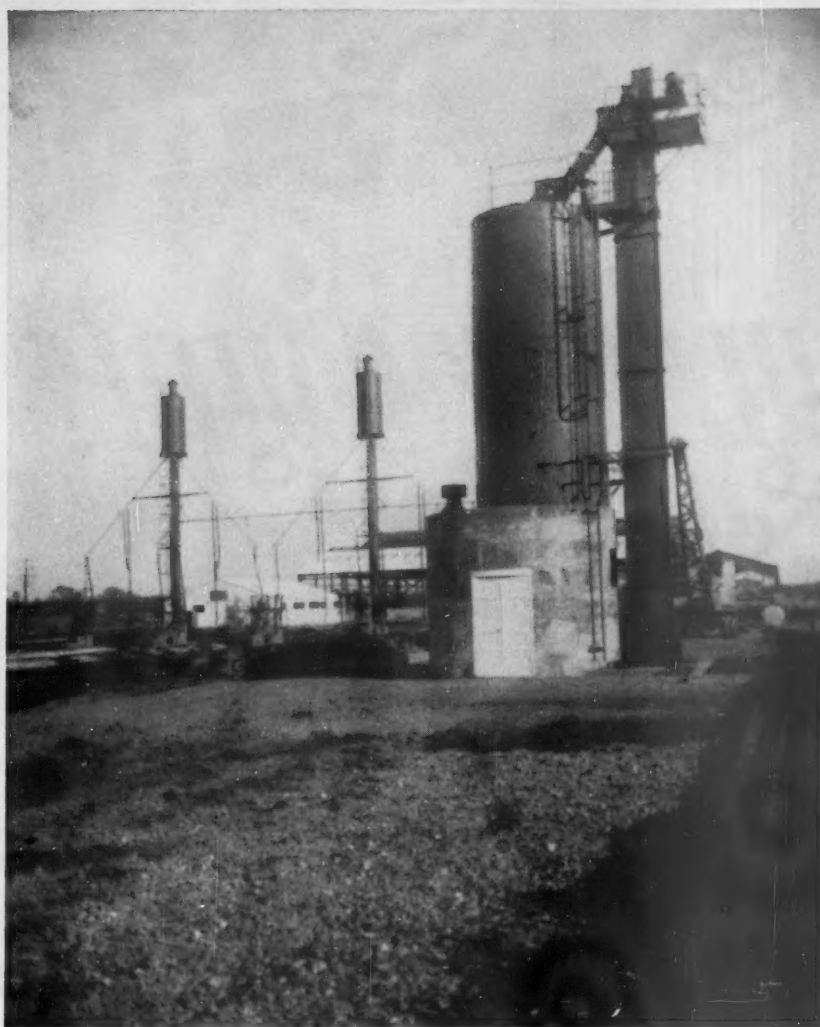
Luxury has a western flavor in the colorful "Traveller's Rest" buffet-lounge.



CHICAGO • TWIN CITIES • SPOKANE
PORTLAND • TACOMA • SEATTLE



KANSAS CITY SOUTHERN RAILWAY CO.
NEW SHOPS, NORTH SHREVEPORT, LA.
ANOTHER OF OUR DIESEL LOCOMOTIVE
SANDING FACILITIES



18 FT. LONG UNLOADING HOPPER. 24 TON PER HOUR
LEY-BUSHED CHAIN BUCKET ELEVATOR. SEVENTY TON
STEEL WET SAND STORAGE BIN. "VILOCO" REVOLVING GAS FIRED
SAND DRYER — CAPACITY 2 TONS OF DRY SAND PER HOUR.
TWO 10 TON, 2 TRACK ROSS AND WHITE SAND TOWERS.
DESIGNED AND BUILT BY US THROUGHOUT.

ROSS AND WHITE COMPANY.

CHICAGO DAILY NEWS BUILDING, CHICAGO

CLYDE P. ROSS, *President*
DAVID E. WHITE, *Vice President*
CARLETON P. ROSS, *Vice President*
R. W. BURRILL, *Contracting Engineer*



HEADIN' SOUTH?

GO L&N!



FINE TRAINS

- THE GULF WIND** de luxe overnight streamliner running daily between NEW ORLEANS and JACKSONVILLE.
- THE SOUTH WIND** between CHICAGO and MIAMI every *third* day. Luxurious Pullmans. *Reserved coach seats.*
- THE DIXIELAND** between CHICAGO and MIAMI every *third* day. Luxurious Pullmans. *Reserved coach seats.*
- THE GEORGIAN** fastest overnight rail service between CHICAGO and ATLANTA.
- THE SOUTHLAND** shortest rail route from CHICAGO, DETROIT, and CINCINNATI to FLORIDA WEST COAST.
- THE HUMMING BIRD**
THE PAN-AMERICAN . . . de luxe streamliners operating *daily* between CHICAGO, ST. LOUIS, CINCINNATI, THE MISSISSIPPI GULF COAST and NEW ORLEANS.

Ask your L&N Ticket Agent to have a Hertz Driv-Ur-Self car awaiting your arrival.

IT'S SAFE—RELAXING—TO GO BY TRAIN!

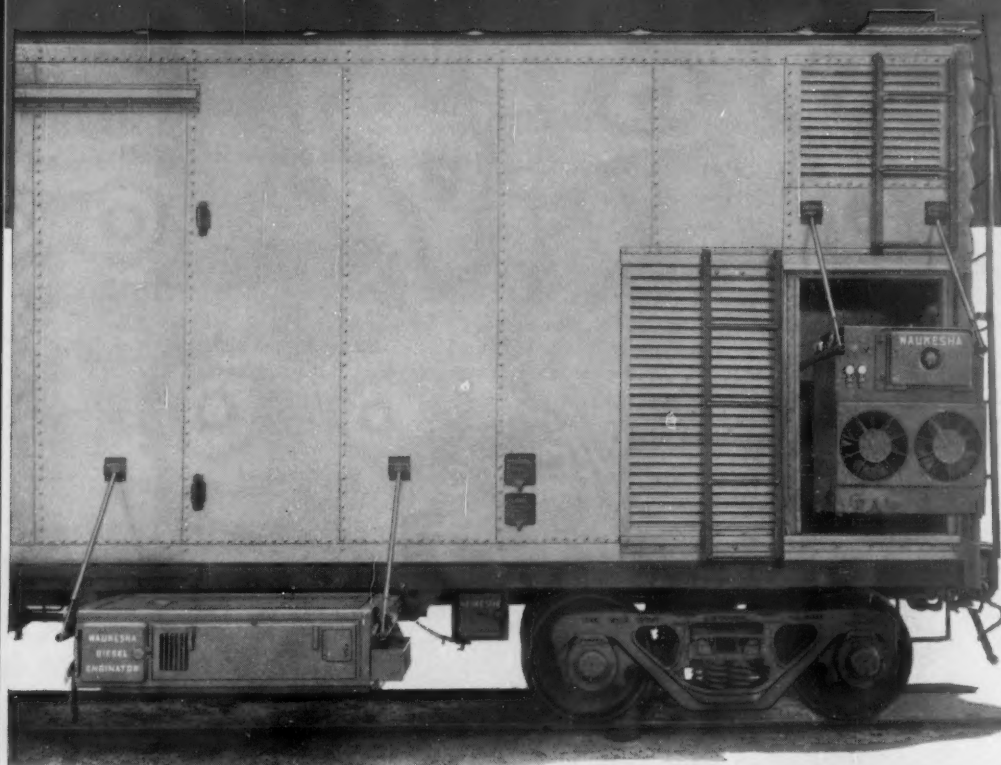
LOUISVILLE & NASHVILLE R. R.



WAUKESHA

diesel-icer automatic refrigerating and heating system

for **NEW**
railway
refrigerator
cars



Typical Inner-Car Diesel-Icer System installation showing completely packaged cooling-heating unit, consisting of compressor and evaporator sections, and the under-car 20 KW Engine, both rolled out for routine inspection.

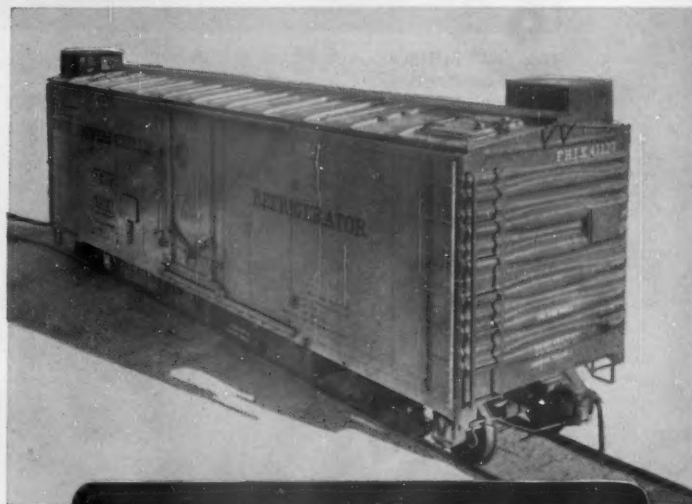
Top-mounted cooling-heating unit installation for conversion of water-ice cars without modification of the car structure.

Automatically-controlled cooling and heating for railway refrigerator cars—with the Waukesha Diesel-Icer Mechanical Refrigeration System!

For new cars, built for mechanical refrigeration — with inner-car cooling-heating units.

For existing ice-cooled cars without modification of the car structure—with top-mounted cooling-heating units.

The Waukesha Diesel-Icer System consists of a 20 KW Engine (a six-cylinder, 4-cycle Waukesha horizontal Diesel engine direct-connected to a 220-volt, 3-phase, 60-cycle alternator) and two motor-driven Cooling-Heating units for low temperature or all-purpose cars. Only one Cooling-Heating unit is required in cars used exclusively in 35° service.



304

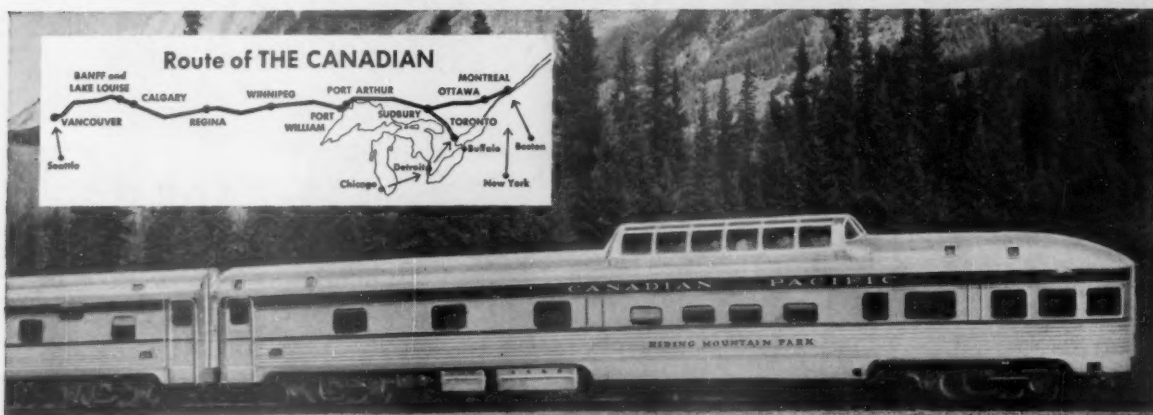


RAILWAY DIVISION
WAUKESHA MOTOR COMPANY
WAUKESHA, WISCONSIN

WAUKESHA
diesel-icer
SYSTEM

Largest Builders of mobile, engine-driven Refrigeration and Generator Equipment

Canadian Pacific presents Canada's only stainless steel Scenic Dome Streamliner—The Canadian



ENJOY SCENIC DOME travel across Canada! New fast schedule between Montreal and Vancouver, and Toronto and Vancouver, via Banff and Lake Louise in the Canadian Rockies!

Now, at last, it is possible to see Canada's most spectacular scenery from new high-up Scenic Domes. Accommodations are available for any season of the year, at no extra fare.



FOR 2,881 MILES, 600 of which are through the majestic Canadian Rockies, Scenic Dome travelers can see magnificent Canadian landscape all around, above, straight ahead.



DELICIOUS MEALS AND SNACKS are served in the Skyline Coffee Shop. For more lavish fare there is a Deluxe Dining Room Car. Both open to coach, tourist and first class passengers.



TRAVELERS ENJOY REFRESHMENTS while seated under an original mural of a National Park. Special decorations throughout give *The Canadian* a fresh, unique Canadian atmosphere.



THRIFTY, DELUXE COACHES feature reclining armchairs with full-length leg and foot rests and adjustable head rests. All coach seats reserved. Porter service! Transcribed music!



Any way you look at it...

From the sparkling diners and
luxurious parlor cars to its powerful
diesels, these dayliners are
designed for traveling pleasure.

The Smoothest

Flashing speed on the straight
stretches; easy, gentle curves for a
soothing, relaxing ride.

Most Comfortable Travel

Soft, reclining seats—roomy air
conditioned coaches—
broad picture windows.

between Chicago and St. Louis

From the heart of Chicago to the
heart of St. Louis. Convenient for
business or pleasure.

is aboard the DAYLINER TWINS...

Two trains a day—each way, every day.
Morning and afternoon departures.

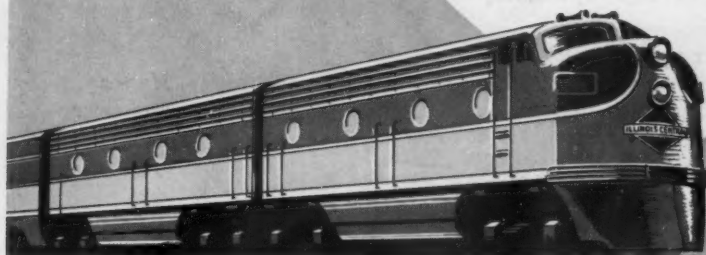
The GREEN DIAMOND and The DAYLIGHT

Leaves Chicago at 4:45 pm, CST
and St. Louis at 9:00 am, CST.

Leaves Chicago at 10:30 am, CST
and St. Louis at 4:45 pm, CST.

Overnighters ride the **NIGHT DIAMOND**

Leaves Chicago 11:20 pm, CST—Leaves St. Louis 11:20 pm, CST.



*Main Line of
Mid-America*

"PORTER-- I FEEL RELAXED ALREADY

I start to ease up
the moment I board
a Pullman"



There's something about a Pullman that spells *peace*. Just thinking about it puts you in a mood for rest. What does a man need *more* these days than a fairly frequent *escape from tension* . . . a chance to relax . . . by Pullman!

Why should travel be a noisy, worrisome *stampede*—fraught with dangers, discomforts and uncertainty? Why should a man expose himself to hours of highway hazards, threatening skies, and traffic tedium?

When you travel by Pullman, your comfort, safety, and peace of mind are matters of thoughtful concern to competent *travel experts*. When you arrive next morning—rested, relaxed, and *on time*—you're fit and ready for another good, productive day.

Next trip, *give yourself a real break*. Enjoy the well-deserved blessings of *travel by Pullman!*

YOU'RE SAFE AND SURE
WHEN YOU TRAVEL BY
Pullman
... COSTS LESS THAN YOU THINK!



*Have a
rent-a-car
waiting
if you wish!*



DF boxcars

can't be wrong about keeping damage costs down!

Forty-four Class I railroads operating 21,424 boxcars equipped with Evans DF are proving every day that you *can* eliminate transit damage to lading!

Shippers are requesting DF cars because DF permits them to use more of the car's capacity. They can double-deck without extra expense or inconvenience. They do not have to pay for costly dunnage. The expense of filing damage claims is reduced. And DF cars are available to shippers *at no extra cost*.

DF is a trademark
of Evans Products Company
... only Evans makes it

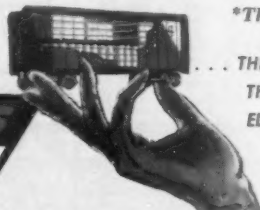


EVANS PRODUCTS COMPANY also produces:

truck and bus heaters; bicycles and velocipedes; Evaneer fir plywood; and Evanite battery separators

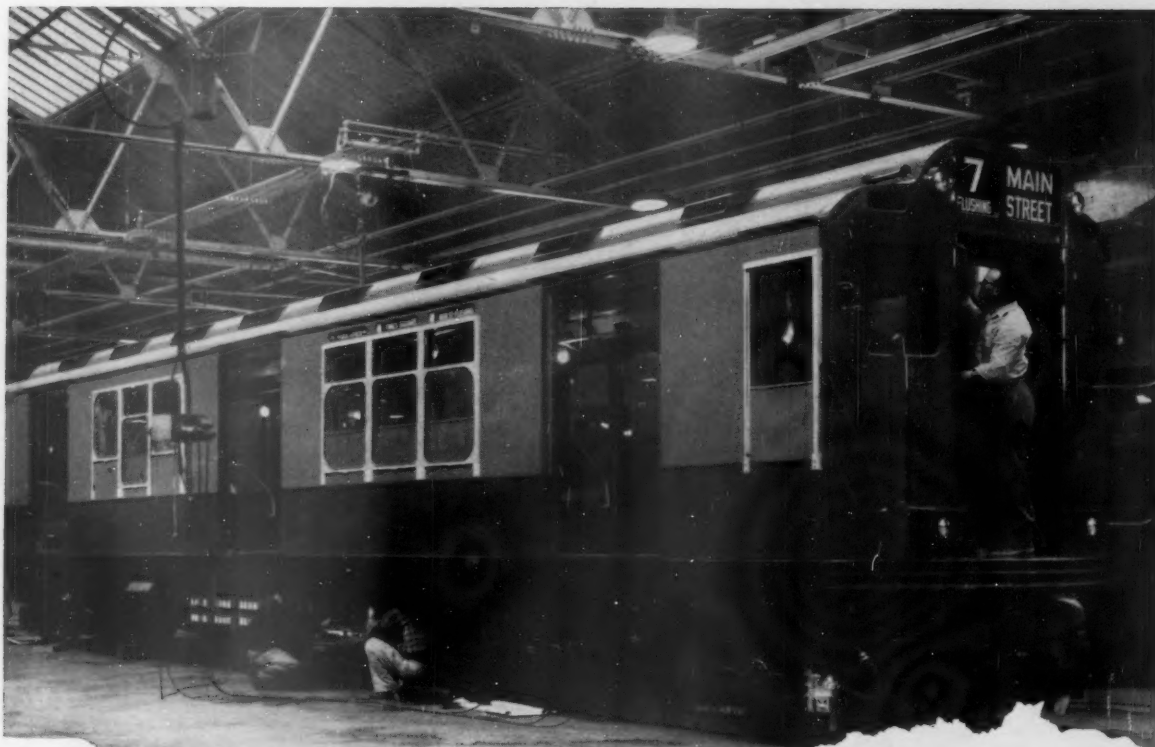
Railroads tell us that DF cars carry heavier loads. Each DF car earns several times more freight revenue per year than an ordinary car.

Whether you're a shipper or a railroad man, you'll benefit by writing, now, for all the details on Evans DF equipment. Address: Evans Products Company, Dept. E-5, Plymouth, Michigan.



**The number increases every day!*

... THE "KID GLOVE" TREATMENT
THAT LOCKS IN LADING ...
ELIMINATES DAMAGE
AND DUNNAGE



Courtesy
ACF Industries

YOLOY "E" STEEL

Used in New York Subway Cars

Yoloy "E" is one of Youngstown's High Strength Low Alloy family of steels designed to cut dead weight without sacrificing strength. Thinner sections can be used with safety. Resistance to shock, vibration and corrosion is improved, thus maintenance costs are reduced.

Freight or passenger cars made from Yoloy "E" steel will provide longer life and lower operating costs due to its high resistance to corrosion.

Youngstown's Service Engineering personnel are available, at your request, to discuss the merits of the Yoloy family of steels in solving your specific requirements.

Youngstown

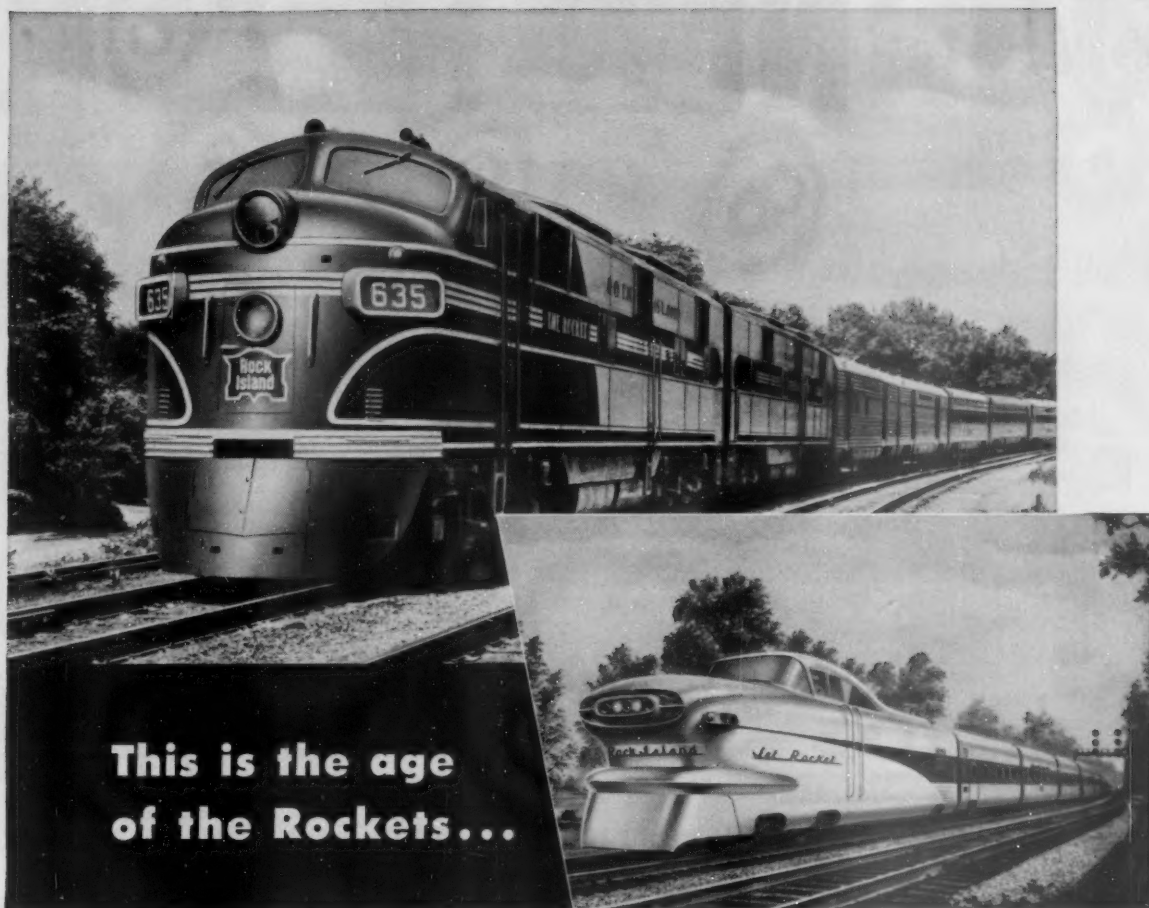


THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of
Carbon, Alloy and Yoloy Steel

General Offices: Youngstown, Ohio - District Sales Offices in Principal Cities

SHEETS - STRIP - PLATES - STANDARD PIPE - LINE PIPE - OIL COUNTRY TUBULAR GOODS - CONDUIT
AND EMT - MECHANICAL TUBING - COLD FINISHED BARS - HOT ROLLED BARS - BAR SHAPES - WIRE -
HOT ROLLED RODS - COKE TIN PLATE - ELECTROLYTIC TIN PLATE - RAILROAD TRACK SPIKES



**This is the age
of the Rockets...**

Perhaps no other family of trains in America has so endeared itself to travelers as the group known as the **ROCK ISLAND ROCKETS** (including the famous **GOLDEN STATE**). Modern, diesel-powered and smooth-gliding, these trains have earned a reputation for transporting travelers quickly, pleasantly, comfortably and efficiently.

Now another **ROCKET** has been born into the family—the **JET ROCKET**—the first train of its kind in America. It introduces a new and finer era in rail transportation. What a train it is!

At your service when you travel...

Jet Rocket
Chicago-Peoria

ROCKY MOUNTAIN ROCKET
Chicago-Denver-Colorado Springs

CORN BELT ROCKET
Chicago-Omaha

DES MOINES ROCKET
Chicago-Des Moines

TWIN STAR ROCKET
Minneapolis-St. Paul-Kansas City-
Fort Worth-Dallas-Houston

TEXAS ROCKET
Minneapolis-St. Paul-Kansas City-
Fort Worth

ZEPHYR ROCKET
Minneapolis-St. Paul-St. Louis

...and the ***Golden State***
Chicago-Los Angeles



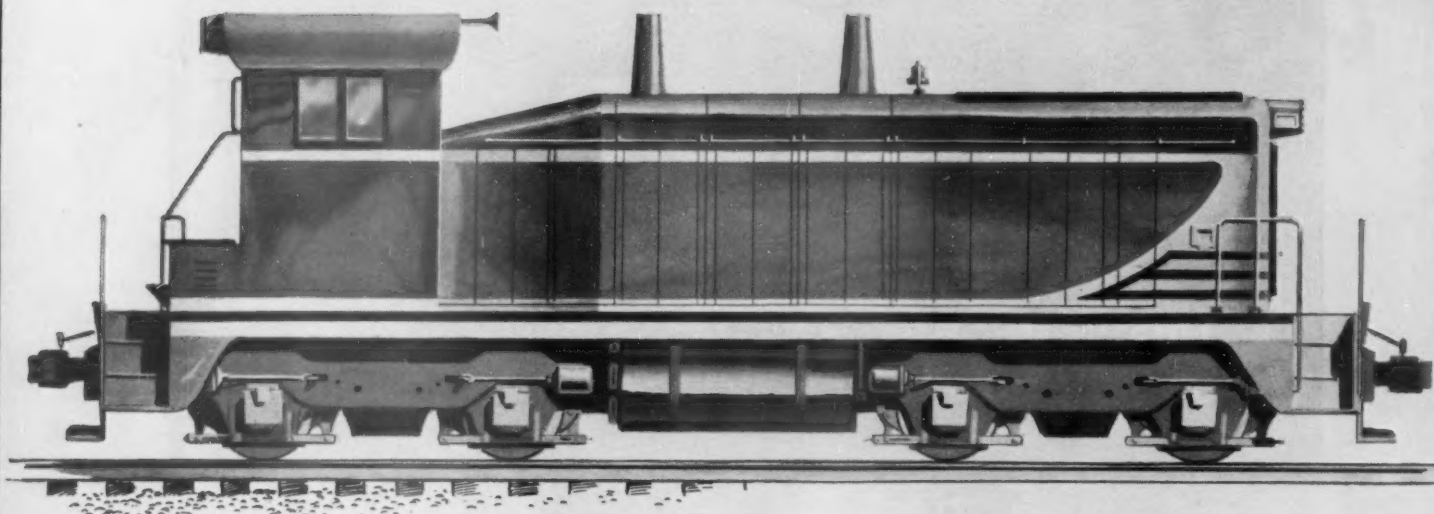
**ROCK
ISLAND
LINES**

*The Road of
Planned Progress*

***Electro-
Motive's***

NEW FLEXIBLE

equips Switching



Twelve General Motors SW1200 switching locomotives with new flexible trucks have been delivered to the Illinois Terminal Railroad, and are now in service on the line's recently de-electrified route between St. Louis and Peoria. Twenty units are being delivered to the New York, New Haven & Hartford.

Electro-Motive's new flexible cast steel switcher truck* is similar to the one used on General Motors road locomotives. It employs the patented "Flexicoil Bolster Suspension" in which the truck bolster is resiliently supported from the truck frame by two sets of coil springs which provide both lateral and vertical travel.

This optional truck gives switching locomotives riding qualities comparable to F and GP units—makes

them easier on track—capable of handling freight at reasonably good speed in branch or main-line service.

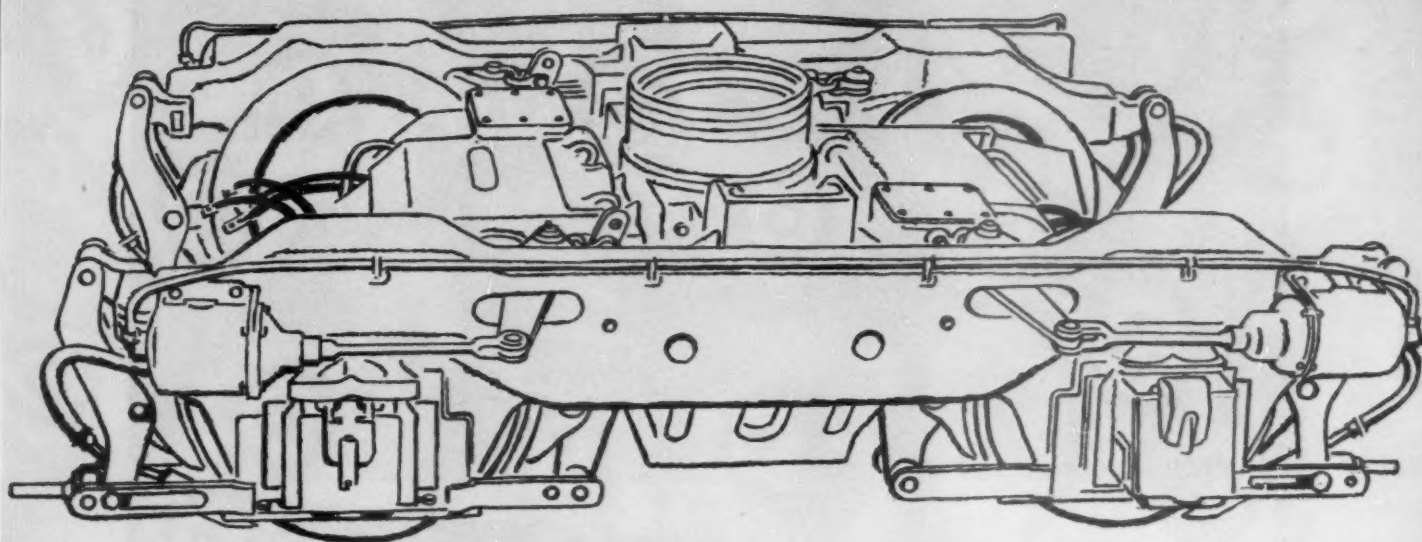
The frame is designed to use either the basic switcher plain bearing journal box or the power roller bearing journal box used on F, GP and SD type locomotives. The clasp brake arrangement is similar to that on our current F-GP truck.

Featuring interchangeability of parts with the 4-wheel Flexicoil truck, the new flexible cast steel truck is available as a replacement for the basic rigid truck on existing switchers with only minor modification of the locomotives.

For full details, write us or ask your nearest Electro-Motive representative.

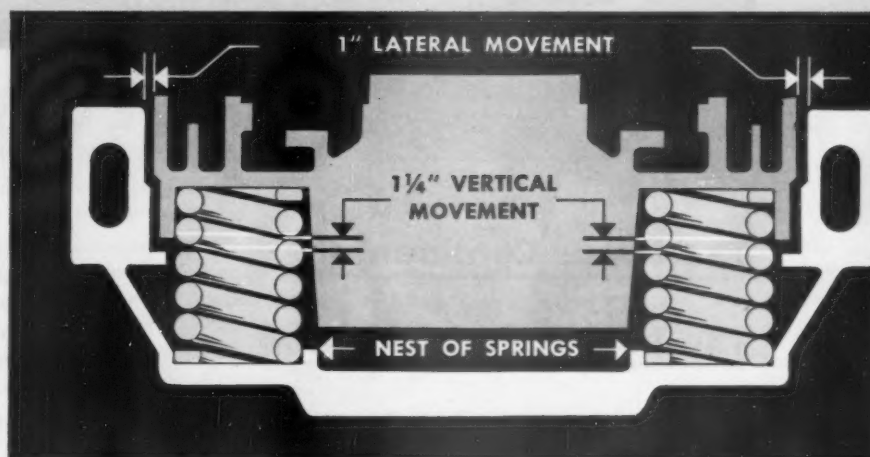
CAST STEEL TRUCK*

Locomotives for road duty



Electro-Motive's new flexible switcher truck employs coil spring suspension of the truck frame from the axle with the springs located directly over the journal box. This design eliminates the elliptic springs, coil springs and equalizer bars used in the truck frame suspension on the basic rigid trucks.

New flexible cast steel switcher truck features "Flexible Bolster Suspension" with large coil springs cushioning shock both laterally and vertically. This results in riding qualities comparable to F, GP and SD locomotives—makes switchers usable for main-line freight hauling at their maximum speed capacity. The new truck is applicable to existing switcher locomotives with only minor modifications.



*Optional at extra cost

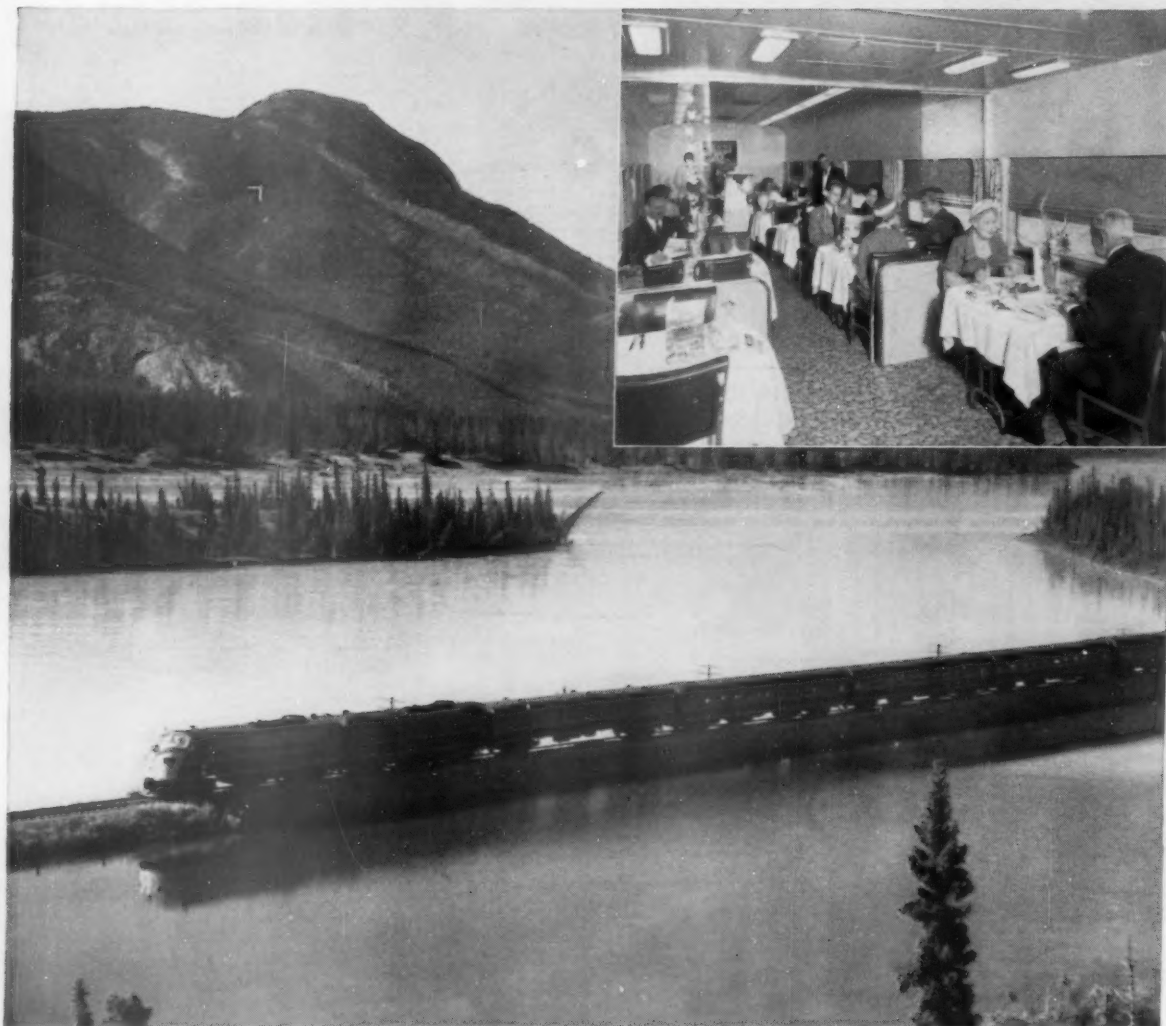


ELECTRO-MOTIVE DIVISION GENERAL MOTORS

La Grange, Illinois • Home of the Diesel Locomotive • In Canada: GENERAL MOTORS DIESEL, LIMITED, London, Ontario

NEW BRAWN, NEW BEAUTY...

for Canadian **NATIONAL'S** Big Three!



The Super Continental

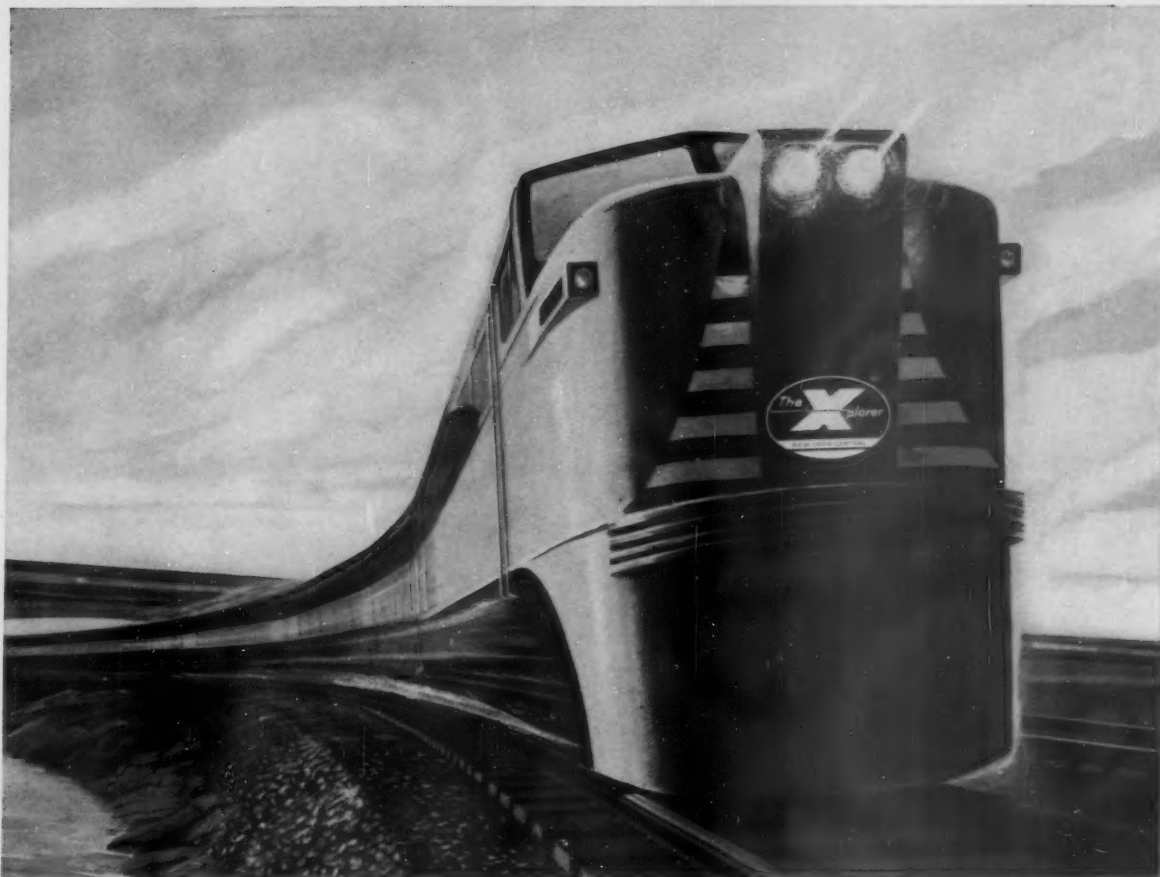
The International Limited

The Ocean Limited



We've speeded up and vastly improved schedules, set up new standards of passenger comfort and service, *completely modernized* these three famous streamliners from their diesel engines to their luxury-lounge cars.

And from the way our passenger traffic is increasing, it's obvious that travellers like what we've done.



The glamour-coach Xplorer is lower, faster, more comfortable and more economical

HERE COMES *The* **X** *plorer*

*Tomorrow's train is here today on the rails
of the New York Central*

There's nothing newer under the sun than this bolt of lightning-on-rails called "The Xplorer."

It's lithe and lean, with a gleaming blue-and-yellow, all-aluminum body. It's low and road-hugging—two-and-a-half-feet lower than conventional trains.

The Xplorer is another manifestation of the "Train X" concept pioneered by New York Central Chairman Robert R. Young as far back as 1947. It is one of two new lightweight, low-center-of-gravity trains which will go into service on the Central this year! And it repre-

sents another giant step ahead in the railroads' war on passenger deficits.

But let's explore more of The Xplorer's wonders of advanced design.

Cross-country on a cushion of air. You're literally riding on springs of soft air—a unique air-suspension system that smooths out the roadbed ahead of you. **Torsion units** level out the ride. You stay on an even keel . . . or bank into turns at just the right angle.

Decorator-designed interiors in handsome, modern materials . . . *all-electric heat* and *six-ton air conditioners* for each

car . . . *windows tinted* top and bottom to absorb summer heat and eliminate harsh glare . . . food service on the "*Cruisin' Susan*" that comes right to your seat!

Though frankly experimental, The Xplorer and the other lightweight trains which are expected to follow it on the New York Central will usher in an era of rail travel that will take you more places easier . . . quicker . . . more comfortably and more conveniently than ever before. Ride The Xplorer soon between Cleveland and Cincinnati . . . and get a taste of the future. The new Golden Age of railroading will begin for you.

New York Central Railroad

So easy to care for... saves up to 50% on maintenance costs!



Despite constant exposure to heavy traffic and accidentally spilled food, the Terraflex floor in the Sperry Gyroscope Co. cafeteria at Lake Success, L. I., shows no sign of wear ... still looks fresh and colorful.



More than a million people use the Miami Terminal of Eastern Airlines each year. After several years of service, Terraflex has proved its durability ... still looks colorfully new ... has cut maintenance time and costs.

Johns-Manville **TERRAFLEX** Vinyl Asbestos tile flooring ... beautiful, colorful, incredibly durable!

ACTUAL ON-THE-JOB FIGURES show that Johns-Manville Terraflex® floor maintenance expense is reduced as much as 50%, when compared to the next most economically maintained resilient type flooring.

A quick damp mopping usually keeps Terraflex clean and bright ... its nonporous surface requires no hard scrubbing ... frequent waxing is eliminated. Despite heavy traffic service ... spilled liquids and foods ... abusive treatment,

Terraflex retains its sparkling, new appearance.

J-M Terraflex vinyl asbestos tile, available in 17 attractive marbled colors, is the ideal flooring for restaurants, public areas, schools, hospitals ... wherever reliable floor service, long-wearing beauty and maintenance economy must be combined.

For complete information about Terraflex vinyl asbestos floor tile, write Johns-Manville, Box 158, New York 16, N. Y.

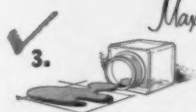
See "MEET THE PRESS" on NBC-TV, sponsored on alternate Sundays by Johns-Manville

Check these special **TERRAFLEX** advantages



1. *Lasts Longer*

Made of vinyl and asbestos, Terraflex will outwear any other type of resilient flooring of equal thickness.



3. *Easy to Clean*

Dirt can't penetrate Terraflex's nonporous surface. A swish of a damp mop keeps it shining bright.

Maximum Service

Terraflex defies kitchen oils and greases ... strong soaps will not dull its lustre.



4. *Wide Color Range*

Terraflex comes in 17 marbled colors that go all the way through the tile—won't wear off or wash out.



5. *Greater Resilience*

Terraflex is flexible, provides comfort and quiet underfoot ... resists indentation.



Johns-Manville

NEW YORK TO MIAMI

Sleepy Hollow Comfort aboard



Seaboard's Silver Streamliners



Recently delivered by Pullman Standard Car Manufacturing Company, seven new stainless steel coaches and twelve sleepers are now in service on Seaboard Airline Railroad's *Silver Meteor* and *Silver Star*. Coaches are seated with Heywood's famous Sleepy Hollow adjustable headrest coach seats. Heywood also furnished all upholstered appointments for the sleepers providing luxurious comfort, night and day, for travelers between New York and Miami.

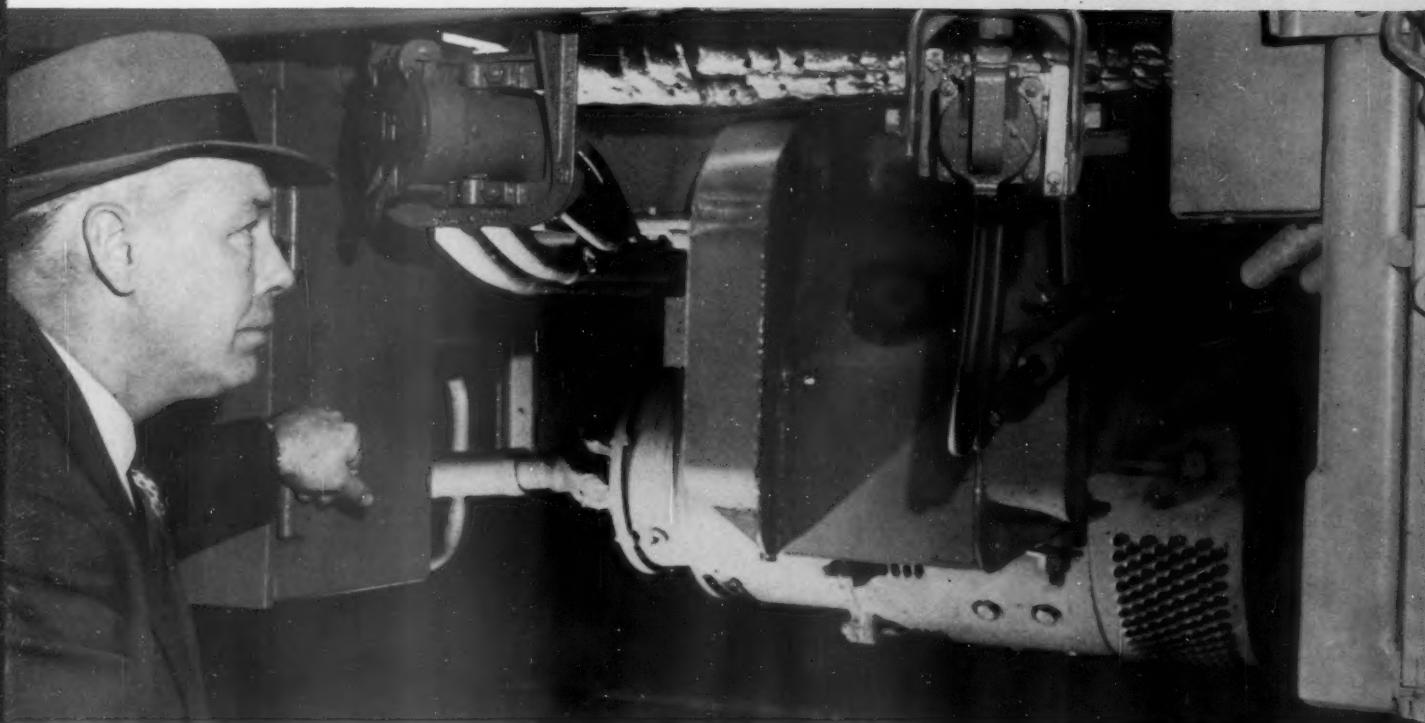
Your Heywood-Wakefield representative will gladly give you complete details of the many seats and sleeping units available to provide the ultimate in modern comfort for your own passengers . . . comfort with a minimum of maintenance service.



**HEYWOOD-
WAKEFIELD**

Transportation Seating Division
Gardner, Mass. • Orillia, Ontario, Canada

In Canada:
Railway & Power Engineering Corp., Ltd.



G-E Axle-driven Motor Generators Help Provide Comfort and Convenience Aboard Union Pacific Streamliners

General Electric's new GMG-162 axle-driven motor generator now in use on Union Pacific trains has more reserve power than competitive equipment. Here's what that means:

1. Better battery record. There is ample power available to charge low batteries while the car is in operation. Therefore, fewer standby rechargings are required.
2. Should axle generators in other cars become inoperative, increased demand can be met effectively. In a recent test simulating emergency conditions, load requirements

of four modern air-conditioned passenger cars were supported by one GMG-162.

In addition, General Electric's GMG-162 has a highly simplified control system, uses only two control panels, eliminates armature reversing switch, and reduces number of moving parts. This results in low cost installation and maintenance. For more information contact your G-E Apparatus Sales representative. Locomotive and Car Equipment Department, General Electric Company, Erie, Pa.

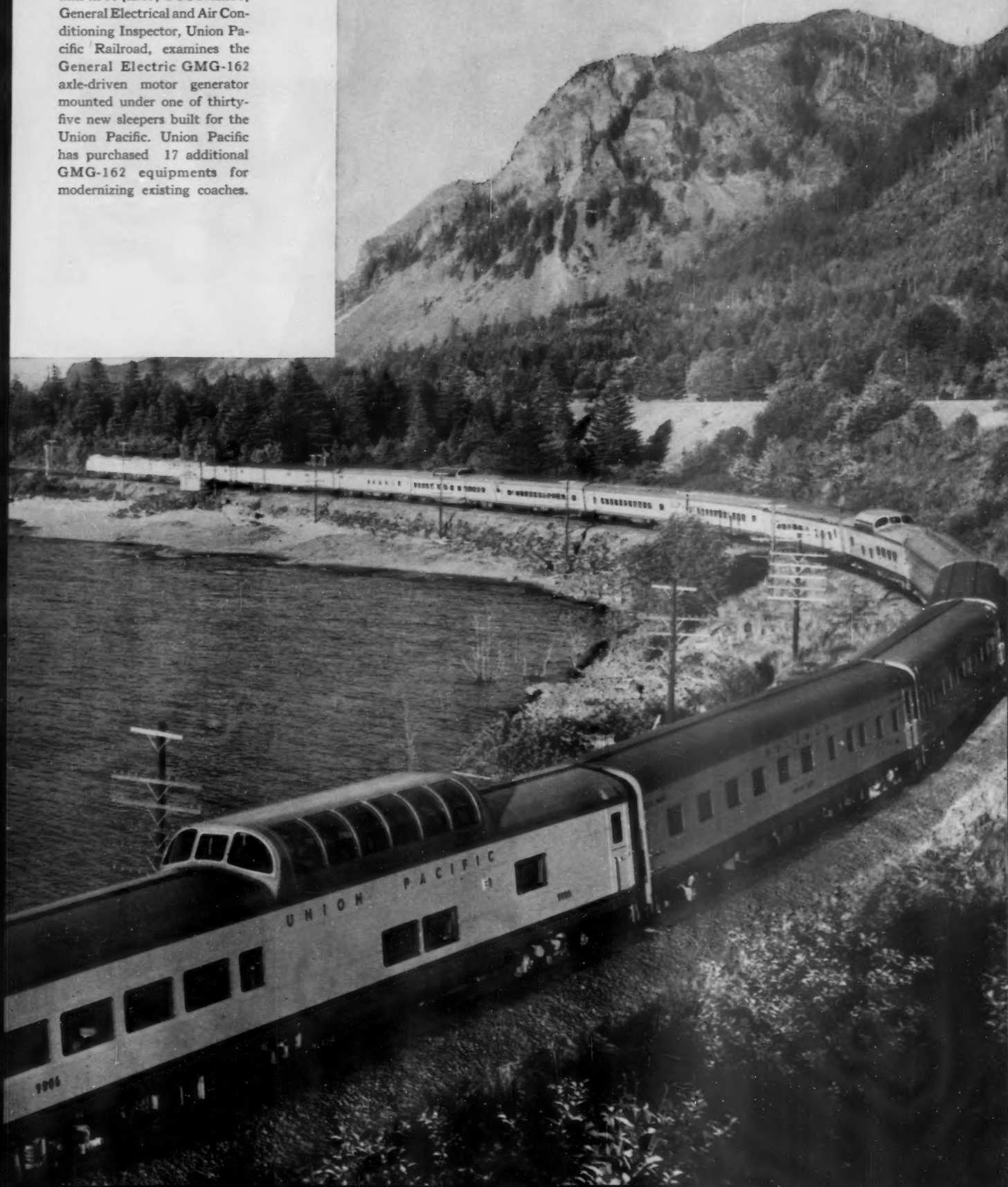
115-10

Progress Is Our Most Important Product

GENERAL  **ELECTRIC**



MR. R. F. (RAY) DOUGHERTY,
General Electrical and Air Con-
ditioning Inspector, Union Pa-
cific Railroad, examines the
General Electric GMG-162
axle-driven motor generator
mounted under one of thirty-
five new sleepers built for the
Union Pacific. Union Pacific
has purchased 17 additional
GMG-162 equipments for
modernizing existing coaches.



NEW!



SINCLAIR JET LUBE POLY-BAGS

*...Greatest Advance in Traction
Motor Gear Lubrication History!*

All the Advantages of famous JET Lubricant-TM

...Now available in Expendable Polyethylene Bags

Just Drop the 1-pound Jet Lube Poly-Bag into Gear Case—Bag Disintegrates and Becomes Part of the Grease Mass.

Tests by manufacturers and railroads prove you get:

- **Savings in Labor Costs**
- **Clean, Easy Handling**
- **More Miles per pound**
- **Assurance the job will be done**

SINCLAIR RAILROAD LUBRICANTS

For further information, contact Sinclair Refining Company, Railway Sales, New York, Chicago, St. Louis, Houston.

NEWEST EVENT ON AMERICA'S NEW RAILROAD

New Hi-



New Luxury Service for Coach-Fare Travel Chicago - Los Angeles

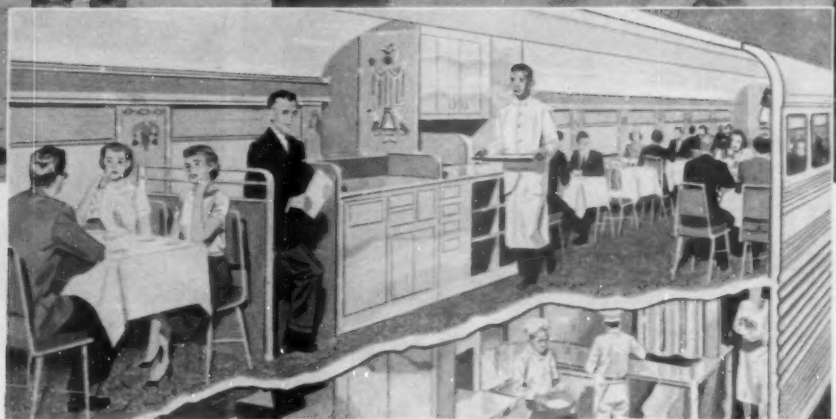
Goes into operation in midsummer

The instant you see it, you'll know this train is different. It's two stories high—designed to provide smoother rides, more room, and better panoramic views of Southwestern scenery. "Upstairs"—well above the clickety-clack of the rails—are foam-rubber reclining seats with full-length legrests, big picture windows, dining room, and full-length lounge. "Downstairs" are luggage racks and washrooms. Courier Nurse service. Indian Guide, westbound across New Mexico. Fred Harvey meals. You'll be riding high, wide and handsome in this new all-coach *El Capitan*! Extra fare \$5.00, Chicago—Los Angeles. Watch your local newspapers for the date it goes into service.

R. T. Anderson, General Passenger Traffic Manager, Chicago.

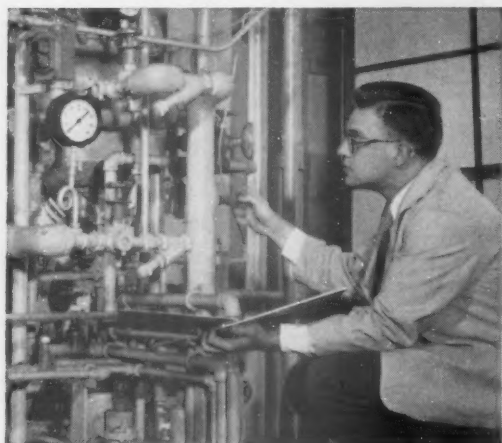
Level 1 El Capitan

Every seat at "BIG DOME" height



You dine penthouse-style. Soft music, magnificent views, and, of course, tempting Fred Harvey dishes—all high above the noise and distraction of the kitchen below.

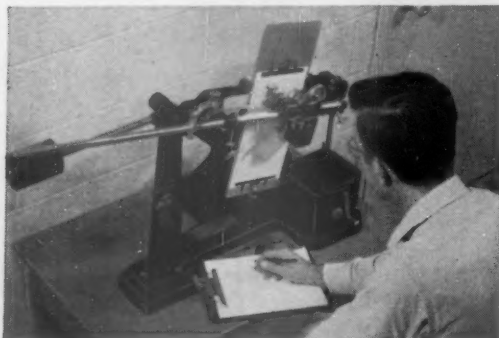
Use the Skill and Know-How of Pittsburgh's 415 Finishes Technologists



● Processes for producing new chemical compositions used in making better surface coatings for rolling stock are developed in a special pilot plant.



● Newly formulated finishes are ground on a laboratory three-roll mill to test minute particle size and dispersion.



● Films made with new compound and synthetic resins are carefully tested in special equipment for tensile strength.

Paint industry's most modern research facilities now provide you with tailor-made finishes for your rolling stock—without increasing your payroll!

NEW AND UNUSUAL transportation and hauling problems bring with them demands for finishes with more exacting requirements for your rolling stock than ever before. Some of these can be solved with existing formulations. Others require completely new chemical compositions to provide new standards in adhesion, toughness and resistance to corrosion and weather-wear.

● To help you get finishes that meet your most critical specifications, Pittsburgh now offers you the most modern facilities for fundamental and applied research in the paint industry. In its new Paint Research Center at Springdale, Pa., and in the development laboratories of its 11 paint plants, Pittsburgh maintains a staff of 415 chemists, engineers and technicians.

● From this group have come many important developments for every railway need. Among them is CARHIDE Hot Spray Vinyl finish now used on hundreds of covered hoppers. This system provides the equivalent dry film thickness, in one coat, to that obtained with two coats of cold spray vinyl coating. Application time is cut in half, drying period between coats is eliminated, higher gloss is obtained and spray fog is reduced to a minimum. Long-life resistance is provided against attack of corrosive ladings including most alkalis, phosphates and acids.

● If you have new or unusual finishing problems bring them to us. We'll gladly place our manpower and facilities at your disposal at no increase in your payroll costs. Write, wire or call Pittsburgh Plate Glass Company, Industrial Finishes Division, 1 Gateway Center, Pittsburgh, Pa.

PITTSBURGH PAINTS
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FINER GLASS
PITTSBURGH PLATE GLASS COMPANY
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



● Hundreds of B&O covered hoppers built by Pullman are protected with CARHIDE Hot Spray Vinyl Acid- and Alkali-Resistant Finish.

the
OLDER

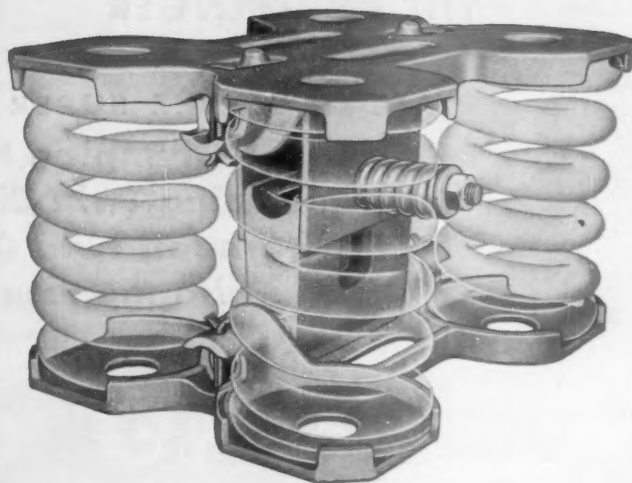
your
freight
cars
get

THE MORE THEY NEED

NEW-CAR SNUB-UP CUSHIONING!

OLD cars carry costly lading too! Why not cut off damage claims at the source? The majority of them originate in the older cars—a condition so simply cured at the first shopping with the application of SNUB-UP Snubbers!

✓ Reduce lading and equipment damage. ✓ No reduction in truck spring capacity. ✓ Absorbs vertical and lateral shocks. ✓ Reduces freight claims immediately. ✓ Large frictional area—long life. ✓ Spring travel $1\frac{1}{2}$ " to $2\frac{1}{2}$ ". ✓ Working parts visible for inspection.



RAILWAY TRUCK CORPORATION

332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

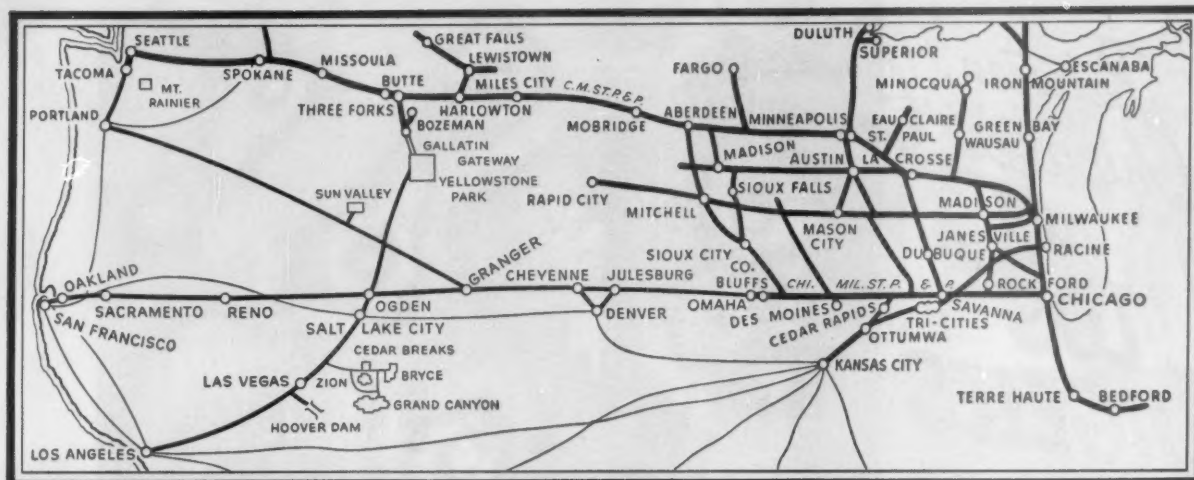
5 "NEW" TRAINS FOR THE MILWAUKEE ROAD

CITY OF SAN FRANCISCO	The Milwaukee Road Union Pacific Railroad Southern Pacific Lines
CITY OF LOS ANGELES	The Milwaukee Road Union Pacific Railroad
CITY OF PORTLAND	The Milwaukee Road Union Pacific Railroad
CITY OF DENVER	The Milwaukee Road Union Pacific Railroad
THE CHALLENGER	The Milwaukee Road Union Pacific Railroad

ADDED TO THE SUPER DOME HIAWATHAS
Olympian HIAWATHA
Morning Twin Cities HIAWATHA
Afternoon Twin Cities HIAWATHA
also the PIONEER LIMITED



THE



No doubt about it—the biggest passenger news not only of the past year but of the century was the moving of the Western “CITIES” Fleet to The Milwaukee Road with arrival and departure at Union Station, Chicago’s newest and largest passenger terminal.

The selection of this Railroad as a link in the historic Overland Route was based upon its modern facilities and improved trackway that assure a smooth ride and on-time arrival.

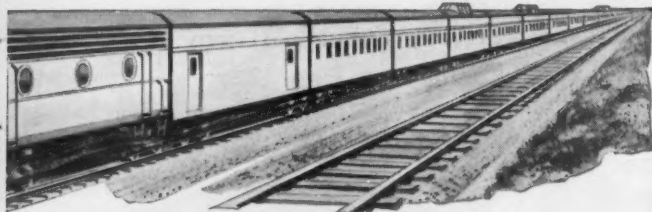
The Milwaukee Road is a transcontinental system of over 10,000 miles. Its association

with two other outstanding railroads creates a strong combination serving all the West with a superb fleet of trains. Three are Domeliners. Each one was expressly designed for the service it performs and offers the highest degree of passenger comfort. The Milwaukee is proud to be partners with the Union Pacific and Southern Pacific in operating this fleet.

Super Dome HIAWATHAS

The Morning and Afternoon Twin Cities HIAWATHAS between Chicago and St. Paul-Minneapolis, and the transcontinental Olympian HIAWATHA between Chicago and Seattle-Tacoma continue to delight travelers. Each of these trains is equipped with a full-length Super Dome and has a unique Skytop Lounge. Another exclusive feature of the Olympian HIAWATHA is Touralux service providing the lowest cost sleeping car travel in the United States. This train is also electrified for 656 scenic miles through the mountainous West.

Look to The Milwaukee Road for continuing progress in passenger service. Harry Sengstacken, Passenger Traffic Manager, 708 Union Station, Chicago 6, Illinois.



MILWAUKEE ROAD

Travel with pleasure—Ship with confidence

*Between
Chicago
and
LOS
ANGELES*



— Starting June 2 —
"The CHALLENGER"
Domeliner
will be **ALL COACH**

For travelers between Chicago and Los Angeles who wish to economize, "The CHALLENGER" is the ideal train.

An Astra Dome Coach, with wide view windows and restful divan seats, is open to everyone at no extra charge. See photo above.

In the downstairs Coaches, seats are equipped with reclining backs and stretch-out leg rests for day and night comfort. All seats reserved.

There's an inviting club lounge and an attractive dining car serving moderately priced meals.

Anyway you look at it, it's smart to ride "The CHALLENGER"; the All-Coach Domeliner.

— Starting June 2 —
"CITY OF LOS ANGELES"
Domeliner
will be **ALL PULLMAN**

The Pullman equipment on this ultra modern all-Pullman Domeliner is of the very latest design. There is nothing finer.

There are berths, roomettes, bedrooms, compartments and drawing rooms.

This luxurious Domeliner also features an Astra Dome dining room and Astra Dome observation lounge.

Pictured above is the distinctive, colorful main dining room with stairs leading to the Astra Dome dining room.

In addition, there is the beautiful Gold Room for private dinner parties.

For the utmost in enjoyable travel between Chicago and Los Angeles, ride the "CITY OF LOS ANGELES" Domeliner.

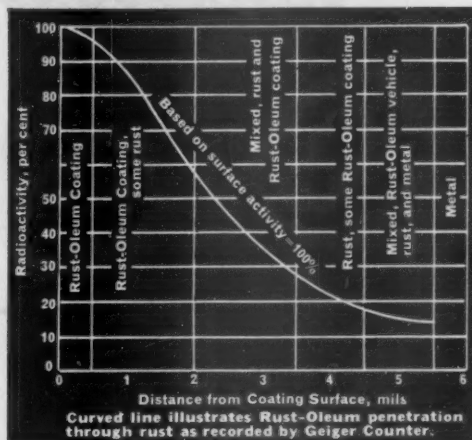


**UNION PACIFIC
RAILROAD**

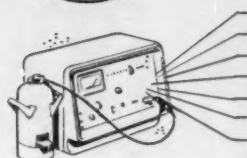
RUST-OLEUM. PENETRATION

through rust to bare metal traced by Geiger Counter. To effectively stop rust—the vehicle of a protective coating, when applied over a sound, rusted surface—must penetrate through the rust down to bare metal. **Rust-Oleum does exactly that!**—as proved by radioactive research! Rust-Oleum's specially-processed fish oil vehicle was radio-activated and formulated into Rust-Oleum 769 Damp-Proof Red Primer—then applied to rusted test panels. Penetration through rust to bare metal by Rust-Oleum's specially-processed fish oil vehicle was then traced by Geiger Counter.

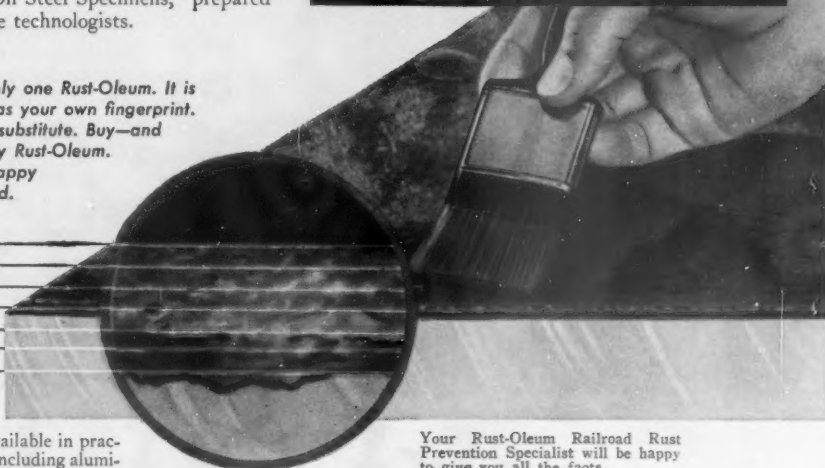
You stop rust, because Rust-Oleum's fish oil vehicle soaks deep down to bare metal and into the tiny pits where it drives out air and moisture that cause rust. You save, because this same penetration enables you to apply Rust-Oleum directly over rusted surfaces—usually eliminating costly surface preparations. Attach coupon to your letterhead for your thirty-page report entitled, "The Development of a Method To Determine The Degree of Penetration of a Rust-Oleum Fish-Oil-Based Coating Into Rust On Steel Specimens," prepared by Battelle Memorial Institute technologists.



There is only one Rust-Oleum. It is distinctive as your own fingerprint. Accept no substitute. Buy—and specify only Rust-Oleum. You'll be happy that you did.

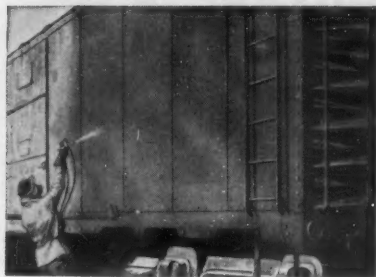


Rust-Oleum is available in practically all colors, including aluminum and white.



Your Rust-Oleum Railroad Rust Prevention Specialist will be happy to give you all the facts.

RUST-OLEUM®



STOPS RUST!

ATTACH TO YOUR LETTERHEAD—MAIL TODAY

Rust-Oleum Corporation
2598 Oakton Street
Evanston, Illinois



- ☐ Complete literature including color charts.
- ☐ Thirty-page report on Rust-Oleum penetration.
- ☐ Nearest source of supply.

Southern Belle

STREAMLINED HOSPITALITY

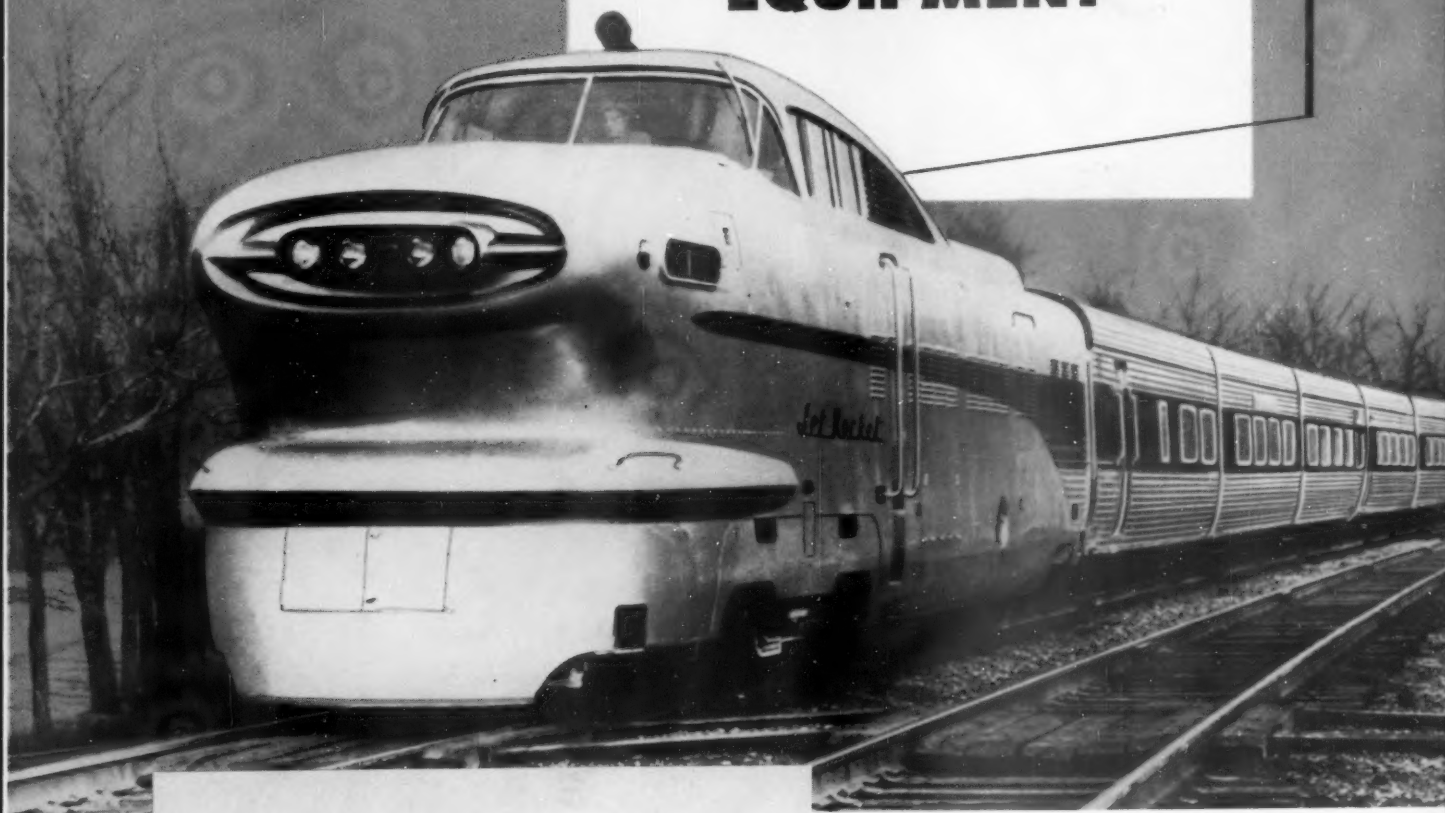
between
KANSAS CITY
and
NEW ORLEANS



W. C. CLARK
Passenger Traffic Manager
SHREVEPORT, LOUISIANA

acf

**SETS THE PACE
IN MODERN
PASSENGER
EQUIPMENT**



lightweight

conventional

pioneering these new developments...

DOME CARS

—Important improvements in “conventional” equipment include the striking, revenue-building **QCF**-built Dome Cars now in regular service on the Union Pacific.

FIRST DOME DINERS

—Prestige and revenue-building public appeal mark the first Dome Diners...built by **QCF** for the Union Pacific, now in regular service.

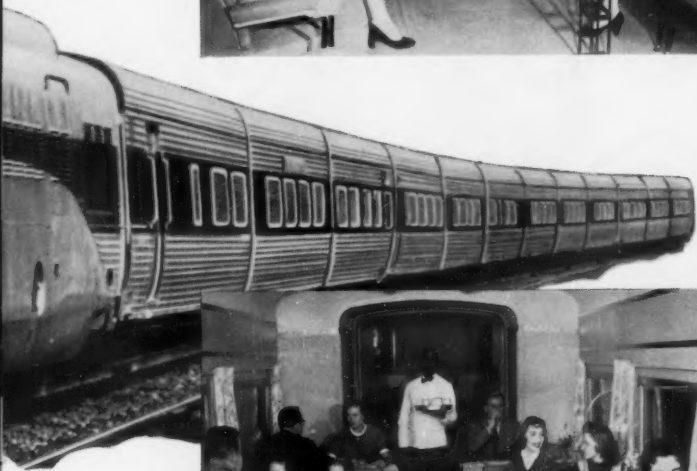
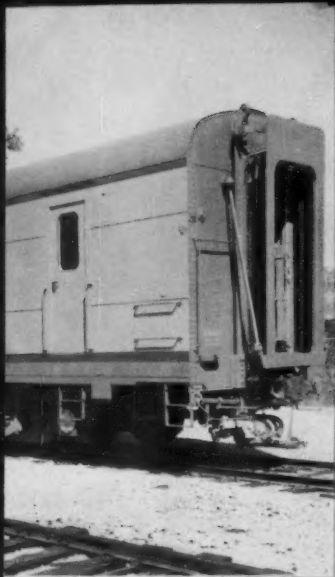
Talgo

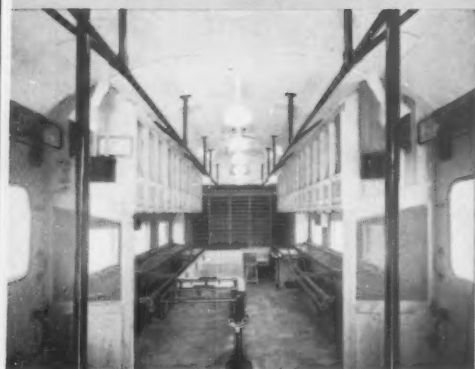
—Cutting costs in regular revenue service on two runs daily between Peoria and Chicago on the Rock Island Line, the light, low **QCF**-built TALGO first proved its value in over six years of service in Spain. The Rock Island's “Jet Rocket” TALGO seats over 300 passengers, weighs only 451,000 pounds including motive power...combines ultra-modern passenger appeal with major economies in operation and maintenance. Soon: two more TALGO trains will go into revenue service on the New Haven and the Boston & Maine, making a total of three in service. **QCF** is truly first in proven, ultra-modern lightweight trains.

and Conventional Coaches, too

—modern, conventional coach equipment, built to **QCF**'s high standards, such as those made for the Louisville & Nashville Railroad.







BAGGAGE-MAIL CARS

—Conventional style, conforming to all Post Office regulations...a complete Post Office on wheels, styled to match modern passenger trains.



BAGGAGE-EXPRESS

Q C F's new Baggage-Express Car makes the best of baggage service, costs far less to buy and to operate than any other baggage car ever developed. Designed to fit attractively into modern passenger trains, it offers the ideal opportunity to accommodate baggage and express with low-cost equipment.



For costs and specifications, write, wire or phone any Q C F office.

acf Car Builders To America's Railroads

AMERICAN CAR AND FOUNDRY DIVISION

Q C F Industries, Incorporated,

Sales Offices: New York—Chicago—St. Louis—Washington—Cleveland—Philadelphia—San Francisco;
Plants: Berwick, Pa., Milton, Pa., St. Louis, Mo., St. Charles, Mo., Huntington, W. Va.

4 NEW GREAT DOMES

ON THE WORLD-FAMOUS EMPIRE BUILDER

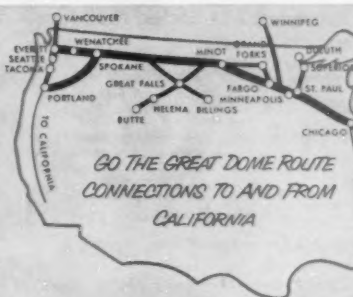


MORE LUXURY DOME SEATS FOR THE MOST SCENIC MILES ON ANY TRAIN BETWEEN CHICAGO-TWIN CITIES-SPOKANE-SEATTLE-PORTLAND

GO GREAT...GO GREAT NORTHERN

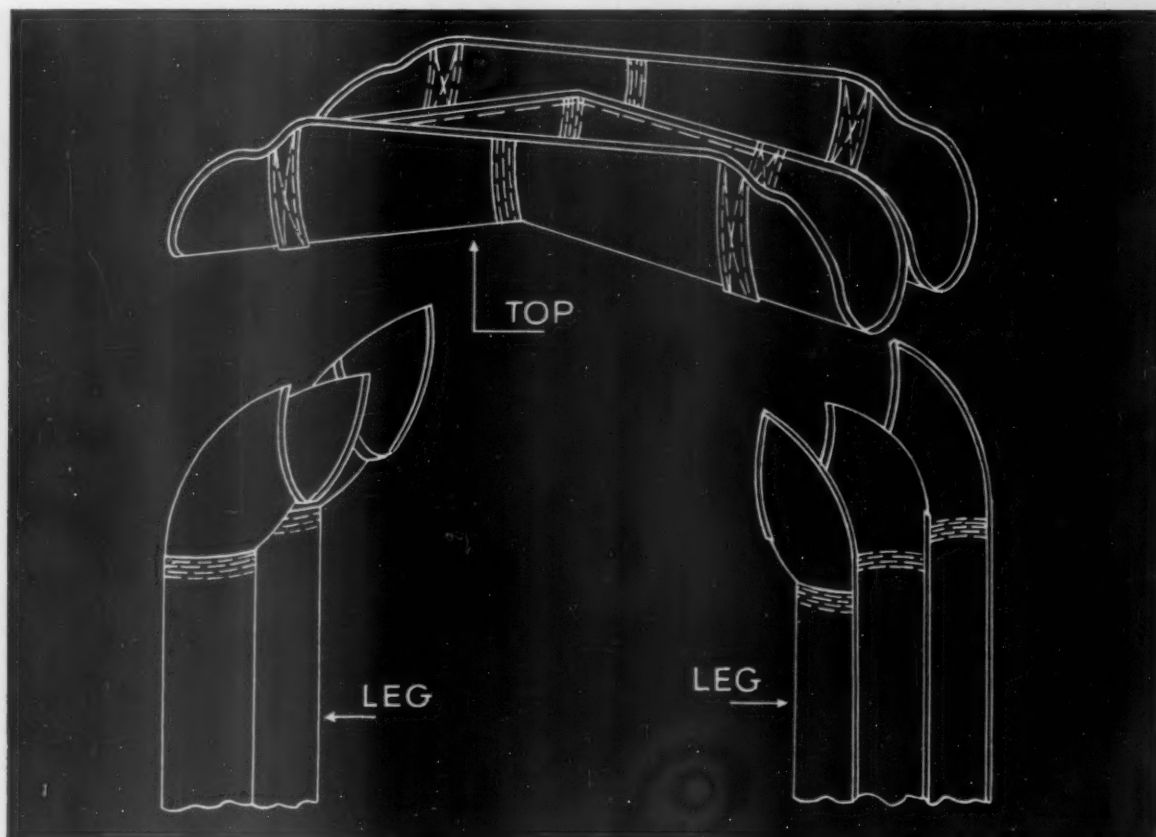


There now are 147 topside seats in the Great Domes on the distinguished Empire Builder—the most dome seats on any streamliner between Chicago and Pacific Northwest cities. And, there's no extra fare for helping yourself to a grandstand seat for the extra wonderful sightseeing in Great Northern country. Three luxurious Great Domes in the coach section of the Empire Builder, plus an exciting, colorful full-length Great Dome in the Pullman section, with a smart lounge on the lower deck. Go Great Northern—and you'll go great!



For information: Write Passenger Dept., Great Northern, St. Paul 1, Minn.

You can see the advantages of Adlake sectional diaphragms!



Top and legs are separate units! Gives flexibility for longer life...prevents tearing at corners.

Replaceable sections! Damaged sections can be replaced without replacing entire diaphragm. Cuts maintenance costs!

Sloping top drains water! Rain, snow, dirt, etc. are carried off quickly, thus prevents collected moisture.

New special belting! Developed especially for Adlake Diaphragms. Gives longer life, resists detergents used for car washing.

For the full story on Adlake Diaphragms, write The Adams & Westlake Company, 1150 N. Michigan, Elkhart, Indiana. No obligation, of course.



THE Adams & Westlake COMPANY

New York • Elkhart, Indiana • Chicago

Established 1857

Manufacturers of ADLAKE Specialties and Equipment for the Railroad Industry



Putting profit back in passenger service

The Speed Merchant . . . America's newest high-speed locomotive, designed for the New Haven by Fairbanks-Morse.

This new locomotive combines the maintenance simplicity of a single engine power plant and the dependability of railroad proven Opposed-Piston diesel power.

Fast acceleration. High speed. Proven power. Simple maintenance. These are the advanced features of the new Speed Merchant that will help put the profit back in passenger service. Designed and built by F-M, this is another significant motive power first in the pioneering tradition of Fairbanks, Morse & Co., Chicago 5, Ill.



FAIRBANKS-MORSE

a name worth remembering when you want the BEST

DIESEL LOCOMOTIVES AND ENGINES • MOTOR CARS AND RAILROAD EQUIPMENT • ELECTRIC MOTORS • GENERATORS • PUMPS • SCALES • WATER SERVICE EQUIPMENT • HAND LAMPS



ON THE GREAT NORTHERN



"ROAD OF THE EMPIRE BUILDERS"

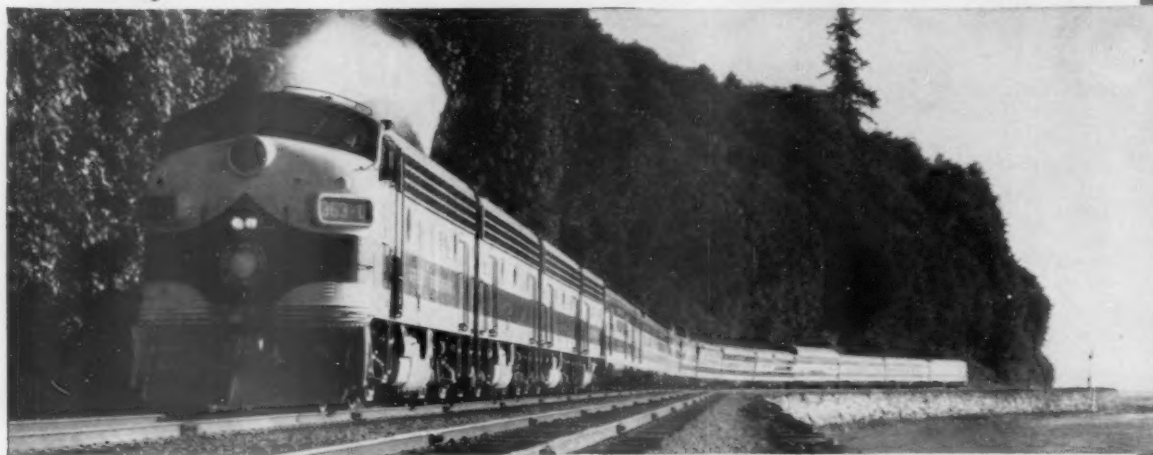


BARCO SPEED RECORDERS

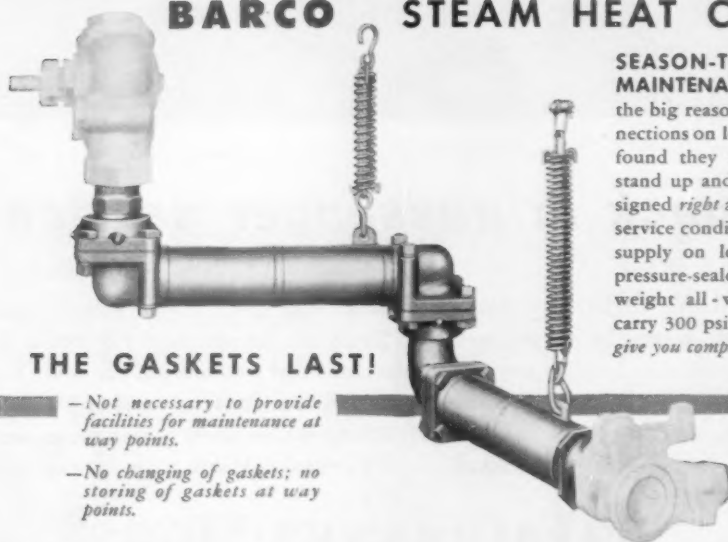
THE FACTS WHEN YOU NEED THEM! It is now widely known that Barco speed tape records are (1) highly dependable and accurate, (2) invaluable in case of emergency, (3) the mark of efficient, modern operation.

Equally important for you to know is that **ONLY BARCO** gives you the accuracy of an **ALL-MECHANICAL** instrument. *There is NO LAG in the speed stylus when the train accelerates or decelerates rapidly.*

Barco Recorders are easy to install and simple to maintain. **AND THEY HOLD THEIR CALIBRATION.** A typical user reports, "Accuracy within 2% at 100 MPH after a million miles of service." This is the kind of performance you want and one reason why you should **INSIST ON GETTING BARCO SPEED RECORDERS.**



BARCO STEAM HEAT CONNECTIONS



SEASON-TO-SEASON SERVICE WITHOUT MAINTENANCE! Lower maintenance expense is the big reason for change to Barco Steam Heat Connections on leading railroads everywhere. Users have found they can depend on Barco connections to stand up and stay tight! Barco connections are designed *right* and built *right* to meet the most severe service conditions. Ample capacity to handle steam supply on longest trains. Freedom from leakage; pressure-sealed and blowout-proof! Built with light weight all-welded steel and improved gaskets to carry 300 psi steam, saturated or superheated. *Let us give you complete information.*

BARCO

Manufacturing Co.

501F Hough Street

Barrington

• Illinois

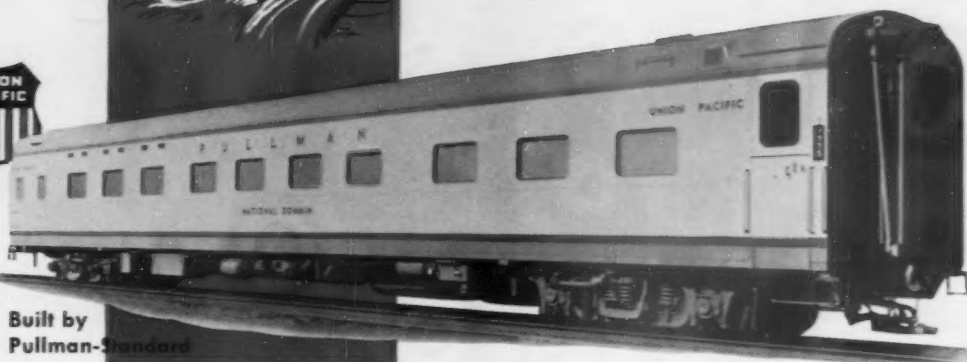
BARCO — SERVING THE NATION'S RAILROADS SINCE 1908

for Sleepers

a smoother ride!

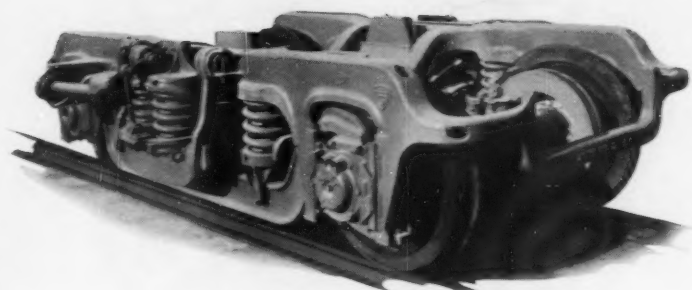


Built by
Pullman-Standard

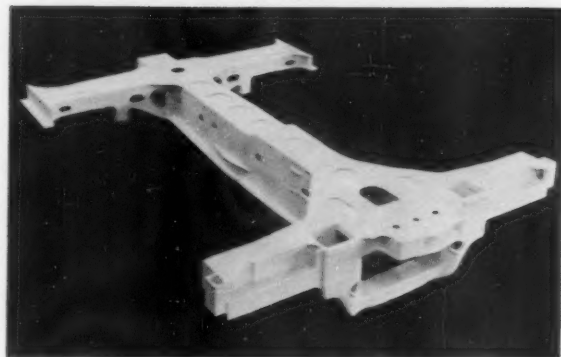


35 New Sleepers For the UNION PACIFIC

**Feature Commonwealth Trucks
and Underframe End Castings**



Outside Swing Hanger Truck
with Large Central Bearing



Cast Steel Underframe End

For passenger comfort and safety the Union Pacific Railroad provides the finest, most modern equipment. In keeping with this policy they are placing in through service on their "City" streamliners, 35 new sleeping cars equipped with latest design Commonwealth *outside swing hanger type trucks* and *cast steel underframe ends*.

Trucks of most modern design with outside swing hangers and large central bearings assure smooth, quiet riding at all speeds. Inspection of truck parts is simplified and maintenance costs are brought 'way down. One-piece underframe end castings with integral body bolsters and end sills provide exceptional strength at the ends of the cars, contributing greatly to travel safety and the elimination of up-keep costs.

A smooth, quiet ride *increases* passenger traffic . . . minimum maintenance *decreases* your costs. To be sure of both, specify Commonwealth cast steel products.



GENERAL STEEL CASTINGS

GRANITE CITY, ILL.

EDDYSTONE, PA.





Teletypewriter Service helps Pullman play host to 50,000 guests

It takes real organization to play host to 50,000 travelers every night—and good *communications* are needed for this nationwide job.

The Pullman Company has found that Bell System service is the answer to its communications problems. From a Message Center in Chicago, a private line teletypewriter network reaches out over 9000 miles, affording direct contact with 57 outlying offices.

This puts speed into hundreds of routine chores. It enables Pullman to

give the public smooth service—saves expense in transferring material, operating cars, restoring lost valuables. A tool gets to the shop quicker. A repair goes faster.

"More efficient management of our business is an advantage of the system," a Pullman official says "... in addition to being more economical."

Bell System services can help speed your communications, save you money. Just call your Bell telephone representative for more information.



How messages are speeded

- A 9000-mile nationwide teletype-writer hookup of 9 intercity circuits connects the Chicago Message Center with 57 stations in 46 cities.
- Chicago is the nerve center of the network. Circuits radiate to secondary relay centers in Philadelphia, Atlanta, St. Louis and San Francisco.
- Semi-automatic tape relay equipment is used to speed messages between switching centers and outlying stations.

BELL TELEPHONE SYSTEM



TELEPHONE

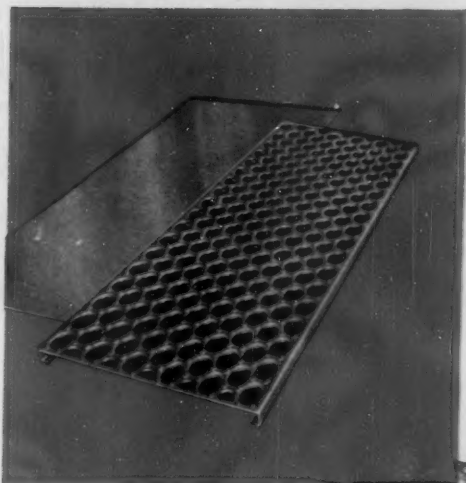
TELETYPEWRITER

INTERCOMMUNICATION AND PAGING SYSTEMS

TELEMETERING AND REMOTE CONTROL

the *Morton* OPEN-GRIP

RUNNING BOARD AND BRAKE STEP



Self-cleaning—safe all year around. Hot dip galvanized after fabrication.

Strong—will withstand high distortional strain.

Versatile—used as: locomotive footboards, caboose platforms, step treads, catwalks, etc.

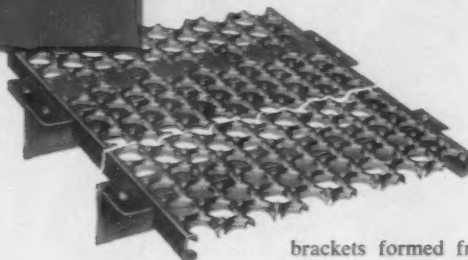
EXCLUSIVE ONE-PIECE CONSTRUCTION

Designed for ease of application, minimum maintenance and permanent sure footing.

"NO COST" MAINTENANCE — One piece of heavy gauge non-corrosive steel makes one piece of Open-Grip running board . . . no welds, joints or rivets . . . it can't break up. *GUARANTEED to last the lifetime of the car body!*

PERMANENT SAFETY — the perforated, raised Kass safety buttons with the self-cleaning "Open-Grip" design *always* provide a positive foothold under *any* weather conditions.

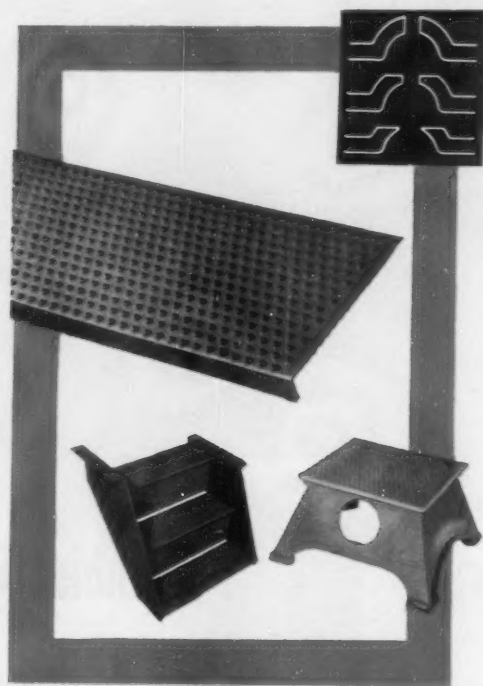
The unique design of the *adjustable* "cup-and-bolt" anchor eliminates precision work and greatly reduces application costs. A comparison of application costs between Morton Open-Grip and other running boards will tell the difference.



NEW RIVETED APPLICATION DESIGN

One piece construction continued! Application

brackets formed from the board itself — no welds to come apart, or extra pieces for added weight.



KASS SAFETY TREADS

SELF SHARPENING BUTTONS. Stay safe as they wear - lasting anti-slip protection!

Famous Kass Safety Tread gives sure footing — positive foot-hold from all angles.

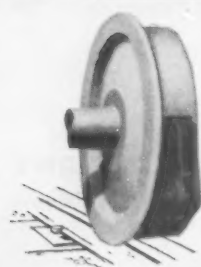
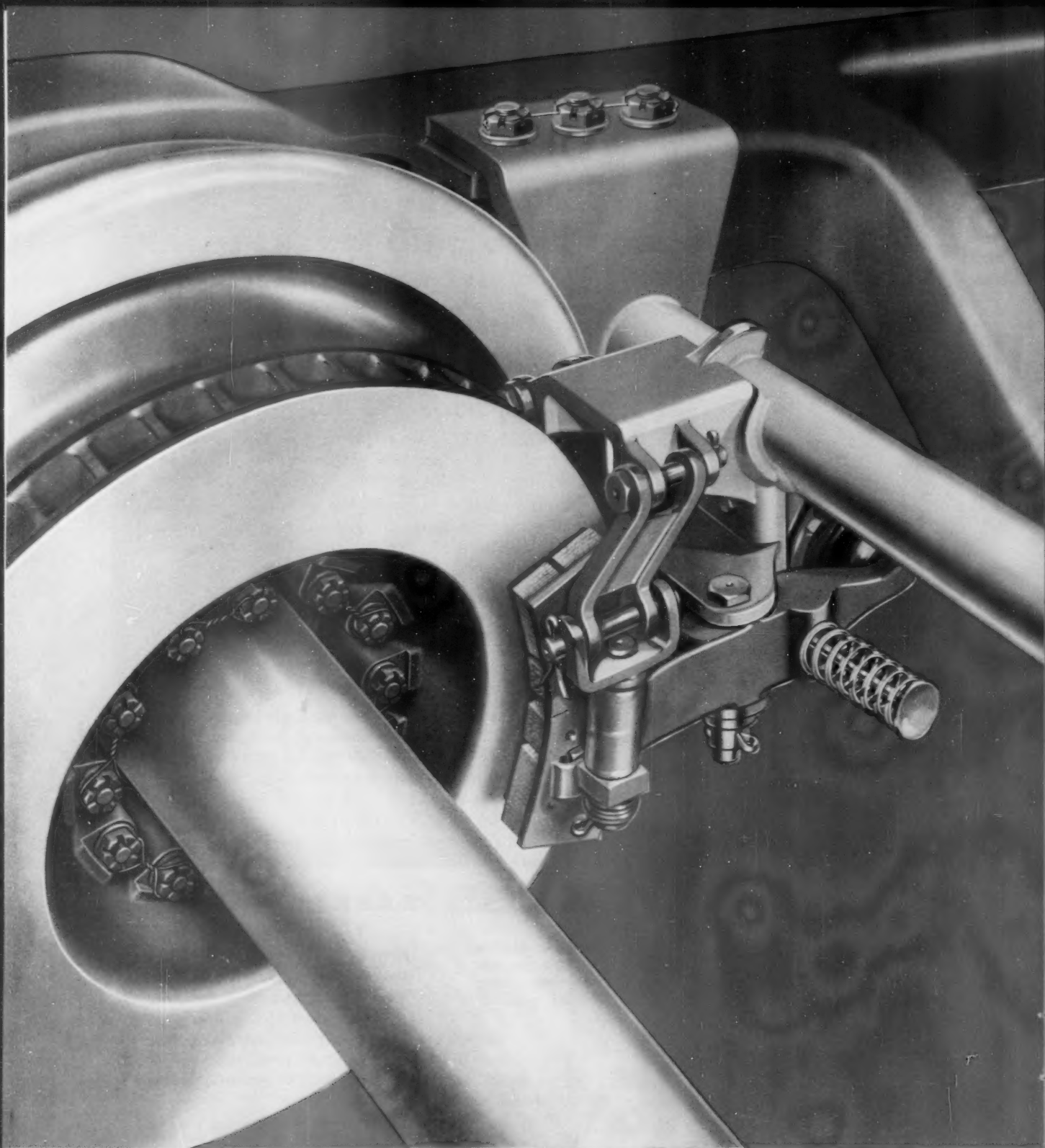
Versatility—fabricated of mild steel, stainless, aluminum or other alloys. Available in any size up to 36" x 120" and in thickness of 10, 12, 14 and 16 gauge. Flange arrangements as specified.

Economy—Morton Kass Treads are lower in cost, lighter in weight and wear longer. Simple installation — no maintenance problems.

Morton

MANUFACTURING COMPANY

5125 West Lake Street, Chicago 44, Illinois



Clasp...



Rotor...



Combination

Only ASF is equipped to design and develop all three types of brakes

Point by Point...

*check this ASF Brake for safe, economical
stopping power*

Simple design saves money on maintenance

All working parts of the ASF-Simplex Rotor Brake are easily accessible for quick inspection—without removal from the truck. To change shoes, simply remove one pin and lift out head assembly. Shoes are riveted type; replacement is easy without special tools or fixtures. And, *it's virtually impossible to make a mistake when reassembling the head.* Just slip in the simple pin and cotter, and the brake head is locked in place positively and safely.

Full-floating suspension insulates against shock

Note the unique mounting of the entire Simplex Rotor Brake assembly—100% spring suspended. This

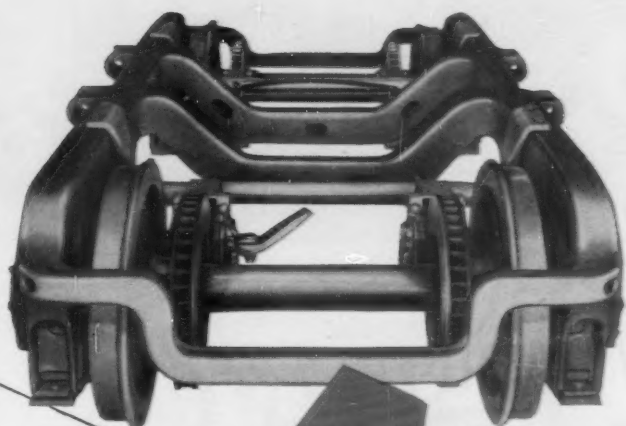
lengthens life of all parts. The spring suspension is not "short-circuited" by attachment to journal boxes. Thus, wheels and axles are easier to remove without interference.

Safe, dependable stopping power...always

Brake shoes are positively guided to make them parallel with rotor; no binding to cause improper action. Power is supplied by rigidly mounted, double-acting cylinders. Shoes have extra thickness...adding many miles of wear between changes. And, these shoes were selected after years of dynamometer testing as the best composition for uniform torque at all speeds and under all weather conditions.

Proved in tests...proved in service

The ASF-Simplex Rotor Brake has been subjected to exhaustive laboratory and field tests—and proved by millions of car miles of service. Nothing has been spared in making this brake live up to the high standards implied by the name "Simplex." Pins are induction-hardened for maximum wear...hardened bushings are ground to close tolerances for smooth operation. And, *the quality of this brake is backed by the prompt service that only a multi-million-dollar plant investment and a multi-million-dollar parts stock can truly produce.*



ASF

AMERICAN STEEL FOUNDRIES

Prudential Plaza, Chicago 1, Illinois

Canadian Sales: International Equipment Co., Ltd.,
Montreal 1, Quebec



All Aboard for Train X

The New Train
The Nation's Leading Carbuilder
Has Built...

now in service on the New York Central System



With this all-coach version, Train X provides travelers with comfortable roomy accommodations. While having an extremely low silhouette, Train X car interiors are comparable in spaciousness with conventional coaches. Train X carries 392 passengers with the safety and comfort of Pullman-Standard's exclusive roll-compensating Air-Glide Ride suspension.



Passengers can really enjoy the scenery through big picture windows, in climate controlled comfort. Acoustical design reduces noise and vibration levels to provide an extremely quiet ride. Easy-to-reach baggage racks keep luggage near at hand. And contoured seats adjust for passenger comfort. Car interiors, tastefully decorated, make wide use of plastics for permanent newness, ease of maintenance and passenger acceptance.

WORLD'S LARGEST MANUFACTURER OF PASSENGER AND FREIGHT CARS

PULLMAN - STANDARD

CAR MANUFACTURING COMPANY

SUBSIDIARY OF PULLMAN INCORPORATED

79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS

BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON

Somewhere between Chicago and St. Louis
... they're doing business



IN THE WABASH "BLUE BIRD ROOM"...
AN EXECUTIVE SUITE ON WHEELS

YOU TOO CAN ENJOY, yes *enjoy*, working your way to Chicago or St. Louis when you travel in the "executive suite" of the Wabash Blue Bird. Open up your brief case. Have the porter bring you a drink if you wish. Light up a cigarette or cigar. You're as much at home here as in your own office ... and probably more relaxed. Here is first-class

travel at its best. At no extra fare.

Next time you travel for business between Chicago and St. Louis ask the porter to show you the "Blue Bird Room." Or get a group of business acquaintances together. It takes only six tickets to reserve this room for your exclusive use. Perfect for informal sales meetings.

Remember, for work or play...the most enjoyable way to go

J. A. BARRETT, Passenger Traffic Manager
St. Louis 1, Mo.

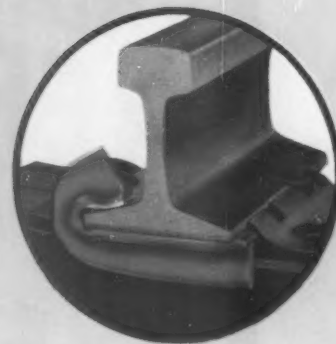


Safe /



**You are safe all around in
using the Improved Fair—**

- 1st** It's easy to install
- 2nd** It's strong and dependable
- 3rd** It's effective and assures dependable service for many years.



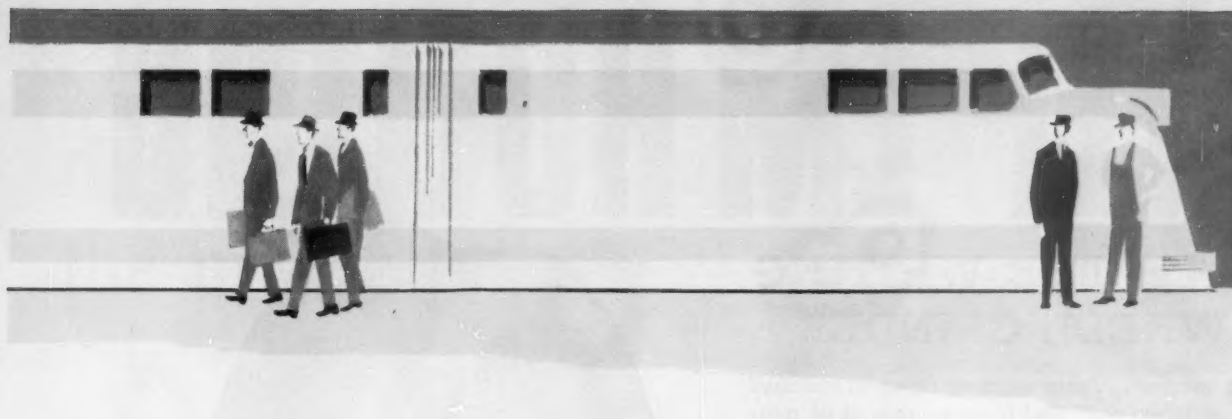
THE P. & M. CO.

CHICAGO • NEW YORK • DENVER • ST. LOUIS • BOSTON • ST. PAUL • WASHINGTON • SAN FRANCISCO • MEXICO CITY



THE HERTZ RAIL-AUTO TRAVEL PLAN

**IS PUTTING MORE
AND MORE PEOPLE
ON YOUR TRAINS**



Railroad losses in total passenger miles, although leveling off in 1955, still dropped 2.7% from 1954 levels— now stand at the lowest point since pre-war 1940.

But people who rented cars from Hertz at their destinations rode 262,200,000 passenger miles—up 15% from 1954.

Railway Age (Jan. 9, 1956) accounted for increased passenger-mile losses in 1955 with this frank reasoning:

More and more American travelers, it said, find the "convenience and flexibility of the private automobile more attractive than the safety, comfort and dependability of the railroads."

Or do they?

Do they really enjoy those long, hazardous miles on the highway? Or do they drive almost 550 billion inter-city miles every year just to have a car when they get there? Sure they do. That's the competition!

And here's the simple way to win these potential customers back to your right-of-way: offer them a Hertz rental car at their destination. It works. Here's proof. Last year, people who used the Hertz Rail-Auto Travel Plan accounted for more than 262 million passenger-miles. That's an increase of 34 million miles of similar travel over 1954.

Alert railway management everywhere is winning new, profitable customers for the railroads, cooperating with Hertz to give the passenger a car at his destination.

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how it works . . . and works for you!

Urge your ticket agents to promote Hertz Rail-Auto travel. Tell them about the 10% commission Hertz pays them. Have them ask passengers this simple

question: "May I reserve a Hertz car for you at your destination?" It takes just moments to fill out the necessary forms, and Hertz pays them—promptly—10% of total rental charges. Once passengers try the Hertz plan, they'll use it again and again (repeat rail business for you!)

Take advantage of promotional help from Hertz! It's free! Hertz supplies plastic signs for ticket windows, reminding passengers to "Reserve your Hertz Rent A Car from your ticket agent." Hertz provides Rail-Auto Plan folders for counters and ticket envelopes, free. And Hertz has installed personal service counters or direct "Call a Car" phones in terminals on concession. (And many more are coming.)

Tie in with Hertz' million-dollar rail-auto national advertising program. Promote the plan yourself—in your national and local advertising, in time-tables, ticket offices, on billboards and highway overpasses.

Remember—Hertz is the oldest and largest car rental service in the world. With over 1,000 offices in over 700 cities worldwide, Hertz serves your passengers with 16,000 new cars—Powerglide Chevrolets and other fine makes. Low rates include all gasoline, oil, and proper insurance. 1,500,000 people hold Hertz Charge Cards and Courtesy Cards, and Hertz honors Rail Travel cards, too.

For full information, reservation forms, and display materials, contact: Hertz Rent A Car System, Department D56, 218 South Wabash Avenue, Chicago 4, Illinois. Phone: WEBster 9-5165.

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WITH NEW, IMPROVED D8s



General Construction Co., Vancouver, put its two new CAT* D8 Tractors to work building a 19-mile section of railroad in the clay gumbo and silt of the British Columbia wilderness. They were used for clearing, building 18-foot roadway and push-loading big, efficient DW21 Tractors and Scrapers.

The contractor reports he is particularly pleased with the oil clutches and the longer tracks of the D8s. The oil clutch on the new D8 (Series E) greatly increases work life of the machines since a constant oil bath lubrication reduces wear on all moving parts. Very little maintenance or external lubrication is required.

And the track roller frames now have *seven* rollers improving flotation and control of 'dozing. In addition, track shoes are hardened by a "water-quench" process to increase life of grousers and other wearing surfaces.

The powerful new D8 (you have a choice of oil clutch or torque converter) has been designed from the ground up for a long, productive life on difficult railroad jobs.

There now is 191 HP in its new engine, which also features a new fuel injection system, new governor, new fuel filter, new water pump, new oil cooler and new larger radiator. There is a constant power drive for power controls, in-seat starting and convenient controls with hydraulic booster.

The new D8 has created a new concept of "a day's work." It will increase your production, lower your costs. Call your Caterpillar Dealer today. Ask him for a demonstration—on *your* job.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

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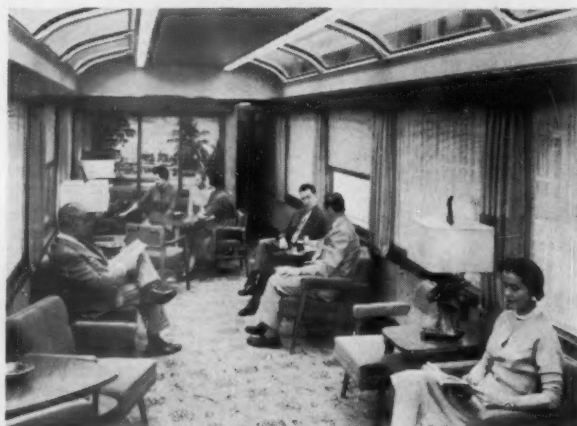
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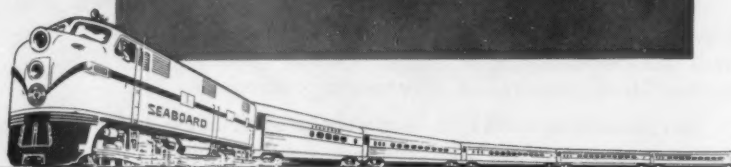
A comfortable, attractive lounge divides the fore and aft sections of the reserved seat coaches featured on the Silver Meteor and Silver Star between New York and Florida resorts. ➔

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RAILROAD PRODUCTS

SPERRY RAIL SERVICE
DIVISION OF SPERRY PRODUCTS, INC.



GENERAL OFFICES - DANBURY, CONNECTICUT



May 21, 1956

To our friends and customers...

Subject: Sperry Radio Systems

On April 11, 1956 Sperry Rail Service acquired the Westinghouse FE Radio equipment line. We are now manufacturing, selling and servicing this equipment.

The decision to handle this product, made after a careful study of the railway market, was prompted by the excellent reputation established by Westinghouse and their type FE Radio.

Sperry's record of 28 years service to railroads is well known. In addition to this experience, our organization and modern manufacturing plant are ideally equipped to maintain the high standards of both equipment and engineering service to which you have become accustomed. Our total effort will be channelled toward your requirements, as Sperry Rail Service has no customers other than railroads.

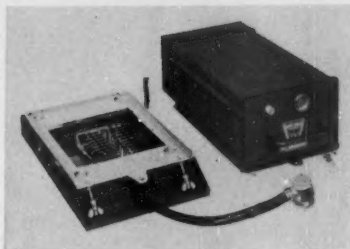
Sperry plans to continue production of the FE Radio, maintaining the same quality as the equipment in service has displayed. We have charted an aggressive engineering and development program, designed to bring to railroads the most efficient, economic and reliable radio communications equipment line. AAR specifications will govern our designs and Sperry Radio Systems will embody the latest advances in the science of radio communications.

Cordially,

SPERRY RAIL SERVICE

J. B. Farwell

J. B. Farwell
President



SINGLE-UNIT RAILROAD RADIO

New radio equipment, now on the market, provides for the transmitter, receiver and power supply to be mounted in one standard size case, mounted on a standard rack. These dimensional standards are in accordance with proposed standards of the AAR Communications Section, discussed in *Railway Age*, March 5, p. 35. The maximum dimensions of the case, as specified in the proposed standard, are 9½ in. high, 15 in. wide and 18 in. long. *Motorola, Inc., Dept. RA, Communications & Electronics Div., 4501 W. Augusta Blvd., Chicago 51 •*

ELECTRIC TOILET

Several test installations of electric incinerating toilets are expected to be made shortly in diesel locomotives. These units were originally designed for use in military aircraft and are reported to have operated satisfactorily. In locomotive service the problem of freezing and the necessity of filling a toilet water tank while the locomotive is being serviced are eliminated.

This industrial toilet weighing less than 40 lbs only requires bolting to the floor, an electrical connection to supply the heaters, and a vent to the outside. The unit requires approximately 1,250 watts. Waste to be disposed of is reduced to ash or is evaporated and emptied from the unit automatically. Already available are similar units operating on natural, propane, or butane gas. Gasoline and diesel fuel fired units are being designed. *National Research Products Company, Dept. RA, P.O. Box 7171, Fort Worth, Texas •*

REMOTE CONTROL DICTATION UNIT

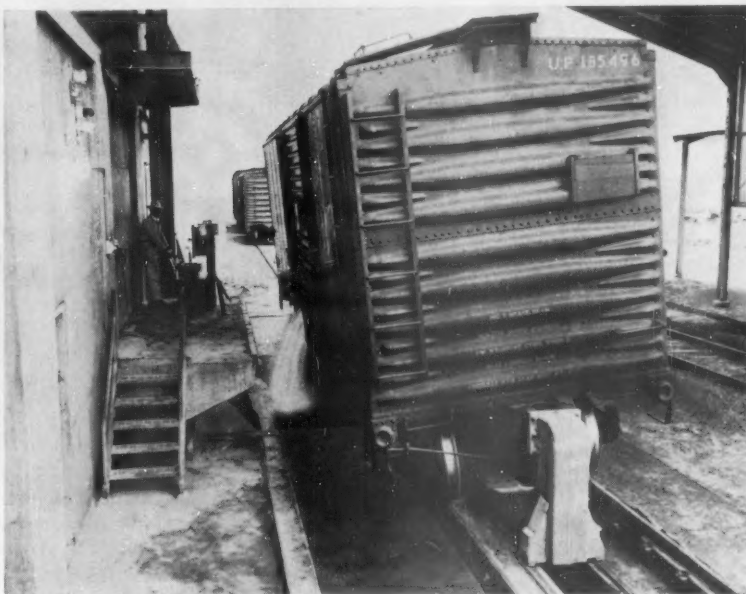
A new remote controlled dictation machine is said to make it unnecessary to have any dictation equipment on the desk except a microphone. In the new machine, called the Commander, all operating controls have been transferred from the dictation unit to the microphone.

By pressing a three-position button on the microphone one can dictate, reverse to review, listen, and even "erase" unwanted words and replace them with a new thought.

For transcribing, varying pressure of the foot enables a secretary to start, stop, listen or reverse the machine, automatically, by remote



control. *Comptometer Dictation Division, Felt & Tarrant Mfg. Co., Dept. RA, 1735 N. Paulina st., Chicago 22 •*

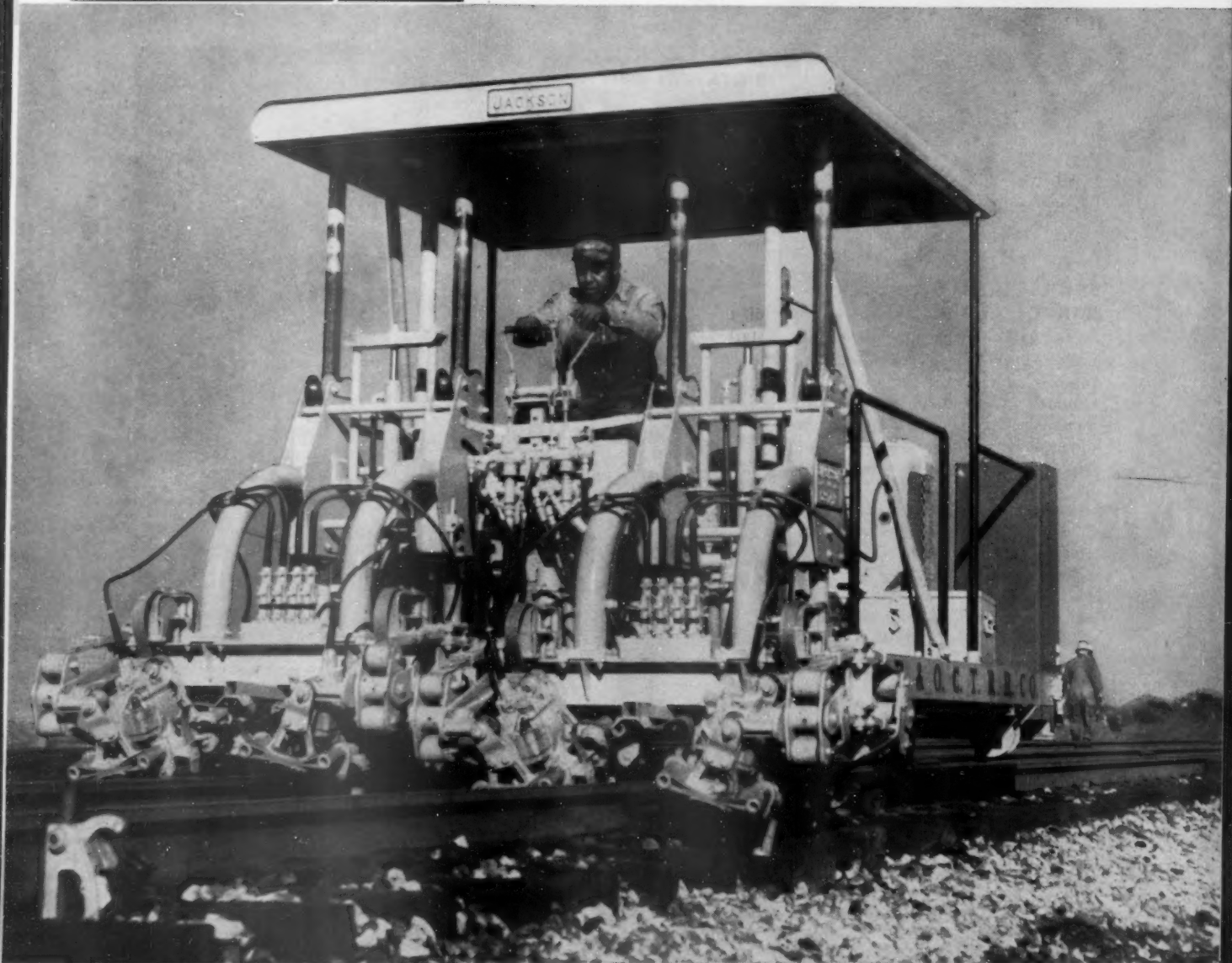


CAR UNLOADER

This unloading device rocks a slightly tilted box car to and fro to provide continuous flow of grain or similar contents from each end through the door and into a receiving hopper. Known as the Kar-Flo unit, it is installed in a 7-ft pit where one rail is mounted eight inches higher than the other. An operator,

located by the hopper, regulates hydraulic end clamps to hold the car in place. Rotation of counterweights produces an oscillating motion which is amplified by 2½-in. diameter coil springs at each end of the platform. *Link-Belt Company, Dept. RA, 301 N. Michigan ave., Chicago 1 •*

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For the Passenger Business —An Axe and a Needle

"Passenger service doesn't need the axe; just give it the needle." This advice wound up a letter sent by a subscriber to our contemporary, *Trains*. It had been prompted by Editor Morgan's earlier commentary on the passenger business, entitled "How To Keep It if We Can't Kill It."

Trains' readers, more than anything else, like to ride on trains. Railway Age's readers have to try to make them pay. With this common bond, we feel no shame in appropriating so apt a phrase—only restating it to read, "Passenger service needs *both* an axe and a needle."

For the axe, we suggest two hardy perennials:

The "Clunkers"—For these runs there is no public demand, and no hope. Lately, the roads appear to be enjoying greater success in getting them off. Credit the success to efforts toward getting better understanding of the problem in the local areas affected.

Commutation Service—Operated by a dozen-odd roads, it is hopelessly unprofitable in most places and, with more inflation likely, will become more so. Unlike the "clunkers," though, there is a real public need and demand for the service; and it yields obvious social benefits. The axe is needed, therefore, not on the service, but on the hard core of the deficit associated with it.

One step might be to get property devoted to suburban service removed from the tax rolls. This would not be subsidy, but merely the elimination of a discrimination now existing against people who choose to go to work by rail—removal of the tax collector's foot from the commuters' necks. The same public bodies which extract money out of unprofitable suburban services by rail leave profitable toll roads wholly untaxed. Also tax exempt are tunnels and bridges for vehicular traffic. Exemption of rail properties devoted to a social service is not subsidy; it is only the end to an old racket.

The Needle for These

For application of the needle, we suggest at random a few promising prospects among the many upon which, it is hoped, the ICC's inquiry into the passenger deficit will throw light.

High Cost of Equipment—Today the railroads compete against transportation performed by equipment which is mass-produced to standard design. The railroads can't hope to win with custom-built equipment ordered in dribs and dabs.

The new-profile lightweight trains now being introduced are the suppliers' answer to high cost. Whether they will succeed in their goal depends upon public acceptance, and upon railroad acceptance of the idea of mass purchases.

Wage Costs—Unlike freight service, mechanization has not enabled the railroads to control the wage ratio in passenger service to any appreciable extent. The latter has gone through the roof. Twenty-car passenger trains might help cut losses in some services, but the generality of passenger travel flow will not adapt to fewer and much longer trains. The brotherhoods need to take a long searching look to the future of their jobs in the passenger service.

Terminal Costs—When it costs almost as much to move trains in and out of metropolitan terminals as they earn in revenue on the road, something is definitely out of kilter. High municipal taxes are one reason; over-elaborate, obsolete layouts are another. Jointly owned facilities, often handicapped by having to satisfy many owner-bosses, add to the problem.

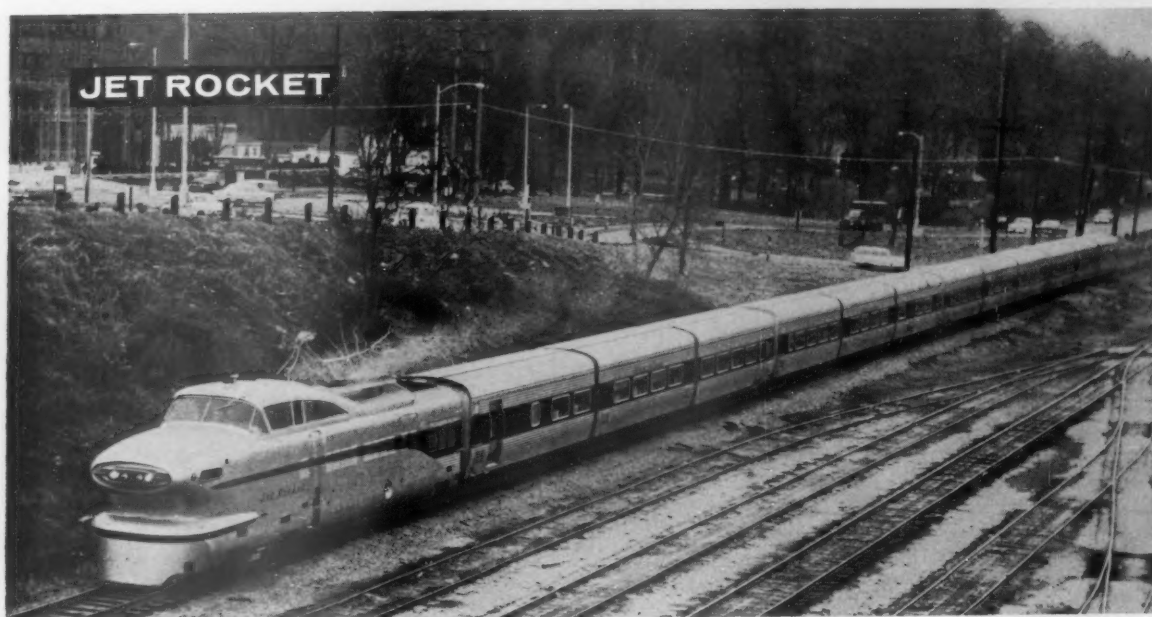
Duplicating Services—There are still too many parallel service routes, unjustified by important intermediate local points. In most cases one route has inherent natural superiority—the others are for local or corporate prestige. It is probable that, by trading off superior against inferior routes, competing roads could give better overall service and cut expenses drastically. Until a real attempt to eliminate overlapping services is made, it may be hard to get public support for drastic passenger service cuts elsewhere.

The Passenger "Deficit"—The full-cost ICC-formula deficit needs to be labeled for what it is—a book-keeping conception. Next, there should be ascertained the true out-of-pocket deficit. From this there should be subtracted the losses from express, mail, non-traveler baggage and chores performed on company business. These losses have nothing to do with the movement of passengers and will not be diminished by efforts to build up passenger traffic. Next, there should be taken away the cold cash losses from suburban services. Finally, losses from the obviously hopeless runs must be tagged for "immediate attention—including hollering."

What remains, if anything, will be the railroads' true loss incurred in the "business"—as distinct from the "obligation"—of carrying passengers.

Here are four observations with which few will disagree: (1) Railroads can move large volumes (goods or people) for long distances over all kinds of terrain more cheaply than any competitor; (2) railroads maintain private ways, generally now used to only a fraction of their capacity; (3) the travel market is growing fast; and (4) congestion on the highways—and in the air—is now chronic.

The passenger problem lies elsewhere than in the inherent physical and economic ability of the railroads to serve a public want at a profit. That "elsewhere" should be sought out and dealt with—*now*.



What Are the Possibilities





of the "Lightweights"?

- How do their features compare? ● Will they improve operation? ● How will passengers like them? ● Will they cut costs? ● How will they ride?

In less than a year the lightweight train movement has progressed from the talking and prediction stage to where there now are four such trains in operation. Three more will be in service by this summer and a total of nine by fall.

At the same time, the opportunity for selection has broadened. Less than a year ago the only choice was between a conventional car and one design of single-axle short-car train. Now a railroad can choose from regular equipment, two designs of ultra-lightweight cars of conventional size with swivel trucks, two designs of trains made up with articulated single-axle short cars, and one comprising short cars with a single rigid axle on either end.

Where do we go from here? How soon will there be data about what it costs to operate such new equipment? How soon will railroads know how well the public likes and will accept the new trains?

Evaluation of the economies of the different lightweight designs and

passenger reaction to each of them should not be long in coming. Each of the three low-slung trains is being tried on at least two different roads. Three of the five roads trying out the new designs are using two different types, and there is a different combination on each of the three lines. And, of course, all the roads have extensive experience with conventional equipment to make the comparisons complete.

Significance of the evaluation—at least in comparison with conventional equipment which has a century of

development work behind it—will have to be tempered, however, by the thought that the new designs are essentially in the development stage and will be for the next few years.

Experience in Europe casts some interesting light on what may be expected with single axle designs. The Spanish "Talgo" is still considered an operating success after 10 years.

German experience is not so encouraging. The German steered single-axle coach train (Railway Age, March 15 and 29, 1954), which initially aroused a great deal of in-

Assignments of the Lightweights

Train	Service	Mileage	Railroad	Locomotive	To Start
Talgo	Chicago-Peoria	161	Rock Island	1-GM	In Service
	New York-Boston	220	New Haven	1-FM on each end	September
	Boston-Portland	115	Boston & Maine	1-FM	October
Aerotrain	New York-Pittsburgh	439	Pennsylvania	1-GM	In Service
	Chicago-Detroit	284	New York Central	1-GM	In Service
Train X	Cincinnati-Cleveland	260	New York Central	1-BLH	In Service
	New York-Boston	220	New Haven	1-BLH on each end	July
Tubular	New York-Washington	227	Pennsylvania	Conventional	June
"Hot Rod" RDC	New York-Boston	220	New Haven	Self-Propelled	October

terest in the lightweight train concept in this country, may have its single-axle trucks replaced by two-axle swivel trucks. Primarily, this conversion is being considered because rough trackage has not been corrected or replaced as rapidly as contemplated.

In riding quality the single-axle truck is more sensitive to track conditions than the swivel truck. Blows from bad track joints are transmitted more fully and more directly than through swivel trucks. German experience with the single-axle truck indicates that it gives a good ride when new and shortly after each shopping, but the ride deteriorates rapidly as mileage accumulates.

In this respect, the picture is not all black. Some authorities believe there is nothing wrong with the single axle truck where it operates on continuous welded track. There is also a school of thought to the effect that too much dependence is placed on car design to attain riding comfort and not enough attention is given to the role of the track. The German single-axle train lacked the ability to compensate for rough roadbed but it did ride satisfactorily on continuous welded rails.

Reaction to Noise

The relationship of noise level to passengers' evaluation of the ride is worth noting. Scientific evaluation of riding quality by test engineers often disagree with passengers' reaction. The higher noise level of the single-axle car is considered one cause of this discrepancy. The noisier the car the rougher the passenger usually considers the ride.

Three months experience with the Rock Island "Talگو" has been somewhat different. While its ride generally is not considered to be quite as good as that of conventional equipment (true generally of single-axle lightweights here and abroad), the ride has not deteriorated with service.

Aside from any differences in basic design features between the "Talگو" and the German trains, two important considerations stand out as having a possible bearing on the different results obtained. Track joints are staggered on the Rock Island as is customary in this country, whereas the joints are opposite each other in Germany. The second

factor is that the German train has a revolving axle like most of our trains, whereas "Talگو" wheels rotate free (stub axle on one side rotates independently of stub axle on other side).

The advantage of free wheels is that they prevent what might be termed "sinusoidal run" which occurs on conventional mounted wheels as, because of the tread taper, first the right wheel gets ahead of the left, then the left ahead of the right and so on.

Free wheels eliminate this cause of "shimmy"—although they have two disadvantages. One is that signal current shunting is made more difficult because the lubricant films between the wheel and stationary axle increase resistance to the flow of current. The second is that the likelihood of flat spots is increased—mainly from braking but possibly from the flange binding in curves on any axle not steered.

The single axle vs. the two-axle truck is but one of several new concepts to be analyzed in the light of operating experience. The use of one diesel unit on each end of the train rather than combining all units at the head end will be tried out on both a "Talگو" and a "Train X." Flexibility of this arrangement can be tested against the "Hot Rod" RDC which will show whether a motor train can be as successful in this country as their numbers indicate they are in Europe, or whether motorizing each car makes for too many service points.

The New Haven looks like an especially interesting line to watch. It is the only road that will be (1) trying out three new lightweight designs, (2) running an integrated motor train, and (3) running a locomotive at both ends of low-slung trains.

A substantial reduction in interior maintenance should be realized on all the new designs. They should be much easier and cheaper to keep clean and attractive than conventional equipment because of the materials used and the avoidance of dirt catchers. Fuel cost will be less while running gear maintenance is still to be determined.

Appreciable improvement in schedules appears likely in territory with considerable curvature, where the new suspensions should permit taking the curves faster with comfort to the passenger. As horsepower-weight ratios on all but the "Hot Rod" are

in line with present practice not much improvement appears likely on straight runs unless stops are eliminated. The Aerotrains does this between Chicago and Detroit, making the 284 mile run in 4 hr, 20 min with one stop vs. the fastest current schedule of 5 hr with 7 stops and a prewar schedule of 4¾ hr.

Articulation Is Back

The old question of articulation versus completely independent body units which has been kicked around for many years on conventional size cars is coming up again. With one big difference, the same principle applies in evaluating the comparative merits of the two ideas for the low-slungs. The units are now smaller.

Even with articulation, the joined body units of "Train X" or "Talگو," for example, have about the same seating capacity (88-96) as a conventional coach of comparable seat spacing and washroom facilities. They therefore offer equal flexibility. However, within any one general design category (either short low-slung cars or conventional) the completely independent car will offer more flexibility (the "Aerotrains" can be built up with units of 40 seats).

Articulation, generally, is not considered to affect riding quality one way or the other with conventional swivel truck design. Whether it will or will not on single-axle short-car trains remains to be seen. Some idea will be gained by comparing the "Aerotrains" with its independent cars against "Train X" or "Talگو" with articulated cars. The same comparison might also help in evaluating the relative merits of the rigid axle on the former and the steered axle on the latter two—also perhaps air springs on the first two against coil springs on the "Talگو."

Whether cars are short or long will apparently have little effect on what features can be applied to them and with what results. Air springs are not restricted to short cars. A long car with air springs is currently under test in Germany.

That country has a short-car articulated train on swivel trucks instead of the single-axle trucks normally associated with such trains. This train with its 40-ft cars is reported riding as well as the best conventional sized cars on the continent. The Germans are also experi-

menting with two-axle trucks radially guided like single-axle trucks. It will be interesting to see whether a swivel truck behaves better when restrained or whether it should be allowed to move free.

Strange as it may sound, the Germans also have a three-axle car under consideration. This proposed design has a further innovation in the form of a flexible center sill to which the one center and two end axles of each car are attached. The bending of the center sill in negotiating the curve aligns each car's three axles radially.

Some principal features of the different new lightweight train designs are compared in an accompanying table. Weight per foot of running length is included because it takes into account some data not considered in weight per seat (seat spac-

ing, washroom sizes, food or beverage service areas, etc.).

At the same time the comparisons of weight per seat between different trains is made as meaningful as possible by listing factors which affect this figure other than basic design. Seat spacing is given. Horsepower per ton is computed. This affects weight on either a seat or a length basis.

No attempt was made to reduce all trains to a common horsepower per ton. This, too, would require further modification to be meaningful in terms of operating results. Short trains require more power per ton than long trains because wind resistance—the major resistance to overcome at high speed—does not increase in proportion to the increase in train length.

For the same reason (wind resist-

ance) the lighter the train the more horsepower is needed per ton to maintain a given speed. As a rough rule, it can be assumed that power reductions will be about half as great as weight reductions at high speed where cross section area is unchanged (i.e. cutting weight in half cuts horsepower needs a fourth). Fuel and power requirements are of course further reduced as cross section area is reduced.

Calculations for the table assume coach seats only (for example, "Talgo" weights per seat assume four 3-body coaches rather than the three coaches and one parlor-dining trio). The numbers are rounded off because (1) there is some variation between trains of the same type ordered for different roads and (2) some figures, while no doubt close estimates, are still only estimates.

HOW THE LIGHTWEIGHTS COMPARE... A COMPILATION OF BASIC DATA

Basic Car	1956 Conventional Coach Body plus two 4-wheel trucks	Budd "Tubular" Body plus two 4-wheel trucks	Budd RDC "Hot Rod" Body plus two 4-wheel trucks	General Motors "Aerotrain" Body plus two rigid axles	ACF "Talgo" Three body units on 4 axles	Pullman "Train X" Two body units on 2 axles
Length overall of basic car, ft-in	85-0	85-0	85-0	40-0	109-3	99-3
Approximate light- weight, basic car, lb	130,000	82,000	109,500	38,000	70,000	61,000
Seats in minimum unit that can be coupled or uncoupled	84	82	80	40	96	88
Seat spacing	36 in.	35½ in.	39½ in.	35 in.	39 in.	39 in.
Seats per axle	21	20.5	Not comparable	20	24	39.2
Weight per seat (excluding locomotive), lb	1,500	1,000	Not comparable	950	730	690
Weight per seat (incl. loco. and power car, if any) lb	2,100 (6 cars, one 2,400-hp unit)	1,700 (incl. power car and one 2,400-hp unit)	1,445	1,400	1,200	1,140
Weight per running ft. Excl. loco., lb	1,500	965	Not comparable	950	640	620
Incl. loco. and any power cars, lb	2,080	1,650	1,290	1,400	1,060	1,000
Locomotive hp	2,400	2,400	(3,600)	1,200	1,200	1,000
Locomotive Weight, lb	310,000	310,000	—	182,000	182,000	174,000
Horsepower per ton (incl. locomotive weight)	4.2	4.8	10.9	4.3	5.2	4.5
Height, overall, ft-in	13-6	11-9	12-5 ¾	10-9	10-10	11-0
Height to center of gravity, ft-in	4-7	3-6	4-3	3-9	3-6	3-8
Floor height, in.	4-3	4-3 (ends) 2-0 (center)	4-3 ½	3-7	2-4	2-0
Coupler height, in.	32	32	32	34	20	13 ½
Basic structural material						
Underframe	Steel	Steel	Steel	Steel	Steel	Aluminum
Body structure	Steel	Steel	Steel	Aluminum-steel	Steel-aluminum	Aluminum
Type springs	Coil	Coil	Coil	Air	Coil	Air
Type brake	Cast iron shoe (mainly)	Disc	Disc	Composition shoe	Cobra shoe	Cobra shoe
Type axle	Rotating through axle	Rotating through axle	Rotating through axle	Rotating through axle	Separate stubs	Rotating through axle
Type heat	Steam	Electric	Engine jacket water	Electric plus oil heaters	Electric plus oil heaters	Electric



What, who and where is the railroads' passenger market?

How can this market be tapped and exploited?

What is the relationship of the price structure to costs
and to existing marketing conditions?

Is present service fully adequate, or is upgrading needed
to produce more volume?

Taking a New Look at Markets

Picture a division passenger operation in which the costs of providing the service outweigh revenues by over \$500,000 a year. Should service be curtailed or abandoned, or should the existing operation be revised and up-graded so as to create a more salable product?

The New York Central's passenger department faced into such a problem recently; and in looking for an

answer turned to the department's new "arm"—the passenger traffic research staff. It was a move the Central could not have made two years ago.

The fact that it can do so today is an indication of the progress that several railroads, including the Central, are making in a new facet of passenger marketing.

Passenger traffic researchers are to-

day tackling a wide variety of jobs as individual roads step up their search for information about who travels, where and why. This NYC operation is one illustration.

The Central's management decided to study the service on this division—the overall market and the travel potential—before reaching firm conclusions about what action to take. In subsequent weeks, the research



staff moved into the area for a detailed study of the economic life, population and wealth distribution, and the existing traffic flow by auto, bus, train and plane. Persons traveling into and out of the area on business were questioned to determine what they wanted and needed in rail transportation.

Results were eye-opening. For one thing, it developed that some trains were running at times of slack demand and to places providing at best a thin market. This knowledge, plus the detailed information about the entire area, has resulted in the Central's pushing ahead with plans to modify all existing service in the area in line with customer needs and demand.

The Research Job

The management of any company can ill afford to decide matters on the basis of sparse or inadequate information. Passenger traffic is no exception. The trend toward more research in this field shapes up as a heartening development in the battle to lure more passengers to the railroads.

In the East, both the Central and the Pennsylvania have established clearly defined and full-time passenger research staffs as part of their top-line passenger department organization. The Chesapeake & Ohio, New Haven and Southern Pacific are also doing some work in passenger research, though it is not clearly defined in their organizational structure. It's a fact, too, that many other railroads use spot checks to study travel trends.

Service at a Profit

E. C. Nickerson, the Central's vice-president passenger sales and services, pointed out recently that the Central aims to stay in the passenger business, and to expand and improve its product wherever there is an opportunity to operate at a profit. "We plan to drop out of those services offering little or no opportunity," Mr. Nickerson said. "To do this successfully, and build a healthy, vital passenger service, we need every bit of information we can gather concerning the needs of our travel markets, and how we can best meet these needs."

"Our passenger research organization is part of the passenger sales and services department staff. It works closely with everyone in the department, supplying current information concerning changes in our markets, our performance in individual markets, and the needs of our markets. It studies changes in competitive conditions, the growth of potential new competitors and changes in our own product which might effect our sales and service plans.

Search for Information

"Toward this end, in 1955 (and again this year) the New York Central cosponsored the National Travel Market Survey conducted by the Survey Research Center at the University of Michigan. We are constantly seeking information of this type to use in planning our sales and service efforts."

Along these same lines, J. B. Jones, the PRR's vice-president passenger sales and services, told *Railway Age* his company's researching plans:

"The manager of passenger traffic research is directly concerned with passenger service marketing subjects, passenger revenue forecasting and analysis and statistical activities. Here appraisals are made of economic effects of individual portions of the passenger service, and investigation of passenger expense factors.

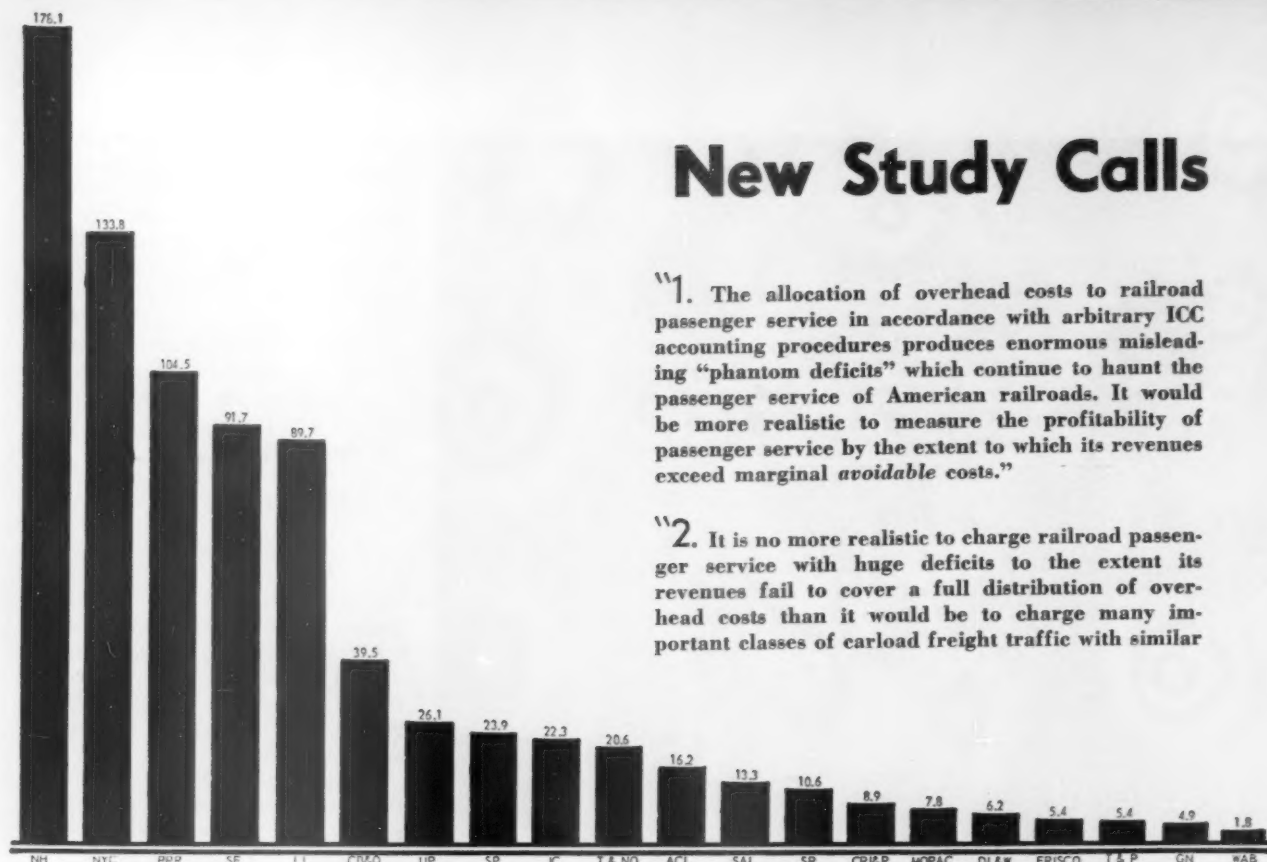
"As the bureau is of recent origin, the marketing research activity is still largely in the exploratory and planning stage, so that no real progress in the marketing field can be counted at this time.

"However, it is expected that eventually the accomplishments will be useful in helping to determine service patterns, pricing policies, sales approaches, advertising requirements, and so forth."

A Growing Need

The advent of entirely new types of equipment—such as the "Talgo," "Aerotrain," or "Xplorer" (the NYC name for "Train X")—is merely adding impetus to the need for more information about markets. This is essential, most car builders and railroads realize, if these new developments are to be used in a way which would help to enable railroads to put their passenger service on a paying basis.

New Study Calls



In millions of dollars: 8-year net revenue ↑ . . .

NORTHWESTERN PROFESSOR URGES NEW YARDSTICK

"A phantom has been haunting the passenger service of the American railroads for many years," says a student of transportation economics. "This illusion is the widely discussed yet little-understood passenger service deficit. . . .

"Comparison of revenues and expenses of 37 major passenger-carrying railroads reveals that the roads with the largest annual passenger service revenues have the greatest annual deficits; actually, their passenger service is more profitable than that of the other roads when evaluated on a realistic basis. . . .

"Such faulty comparisons are no incentive for the aggressive development and efficient management of railroad passenger service."

These statements, lifted from a timely new study on passenger service, will strike close to home with a good many railroad passenger officers. Long on the defensive about their "deficits," passenger officers will find the study at least intriguing and at most supporting many of their own arguments.

Slated to be "off the press" by the end of this month, this investigation

of the "deficit problem," entitled "Railroad Passenger Service Costs and Financial Results," is the work of Professor Stanley Berge of Northwestern University. Briefly put, Mr. Berge's study "reappraises" railroad passenger operations and concludes that so-called "deficits" based on the ICC formula for allocating expenses are "largely illusory and unreal."

A New Yardstick

Mr. Berge believes that the profitability of passenger service to any railroad whose principal business is carrying freight is best measured by the extent to which the revenues added by passenger service exceed the expenses which could be avoided by its elimination. Starting with this premise, he has probed into the Form A reports of 37 leading passenger-carrying railroads.

He says, for example, that instead of "deficits" ranging from \$426 million to \$705 million between 1947 and 1952, the Class I railroads produced passenger "net revenue" of \$20 million to \$201 million. They incurred direct operating losses of

only \$1 million in 1953 and \$38 million in 1954, when evaluated on the basis of directly assigned costs.

The Berge study contends that railroads, rather than shrinking passenger-train services, must constantly strive for optimum utilization of capital and manpower in *all* services.

Just as the farmer finds it profitable to produce additional livestock, increasing the utilization and yield of his farm, most freight-carrying railroads additionally produce passenger train services and thereby increase the utilization and profitability of their facilities. Continued abandonment of passenger service, and consequent failure to obtain maximum "route utilization" does, the author believes, impose added costs on freight service.

"Anything earned over avoidable costs is a contribution to overhead—which in this case consists of all costs common to freight and passenger service which would remain if all passenger service were eliminated," Mr. Berge reasons.

Mr. Berge turns to ICC studies for evidence that not all freight service is free of a "deficit" taint if it

Deficit an "Accounting Phantom"

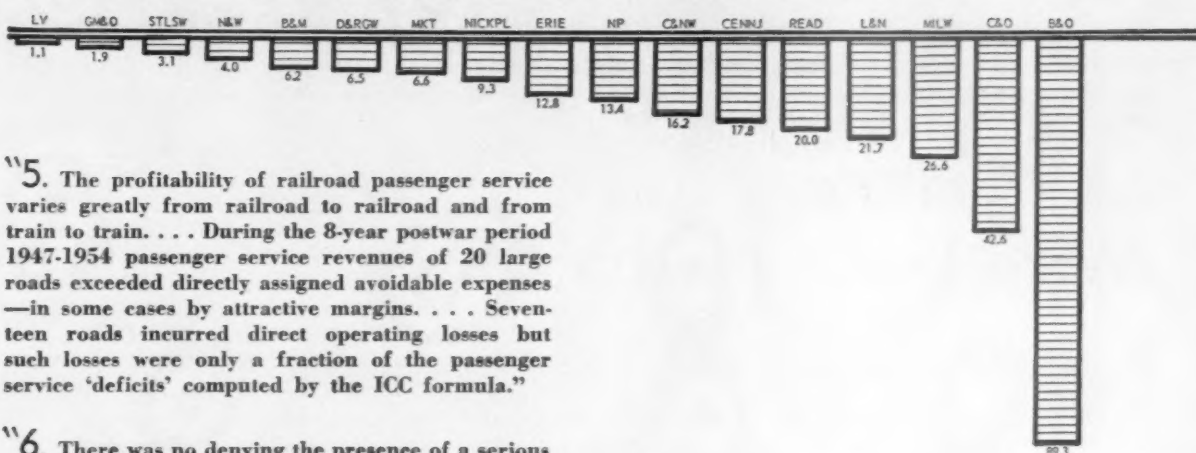
'phantom deficits' simply because their revenues do not cover fully distributed costs."

"3. Revenues of Class I railroads from passenger and allied services exceeded operating expenses solely related to such services by \$486 million during the 8-year period 1947 through 1954, during which period aggregate deficits reported by the ICC amounted to \$4.8 billion. While the former figure doubtless overstates the profit, the latter figure clearly exaggerates the loss beyond all conscience."

"4. The true avoidable cost of railroad passenger

service cannot be determined accurately from data currently reported to the commission. The nearest approximation is the sum of directly assigned operating expenses solely related to passenger and allied services. Other avoidable costs which should be charged to passenger service include payroll taxes and other taxes to the extent they could be avoided by elimination of passenger service, equipment and joint facility rents applicable to passenger service, interest on the depreciated capital investment in passenger train equipment and other facilities used exclusively for passenger service, and finally the added differential cost of carrying passenger train fuel and materials on freight trains."

... or direct operating loss ↓ from passenger and allied services, 1947-1954



"5. The profitability of railroad passenger service varies greatly from railroad to railroad and from train to train. . . . During the 8-year postwar period 1947-1954 passenger service revenues of 20 large roads exceeded directly assigned avoidable expenses—in some cases by attractive margins. . . . Seventeen roads incurred direct operating losses but such losses were only a fraction of the passenger service 'deficits' computed by the ICC formula."

"6. There was no denying the presence of a serious problem of railroad passenger service in 1955. . . . Revenues (except for commutation traffic) were slipping more rapidly than expenses could be trimmed. . . . The opportunity to revive profits through modernization seemed greatest in the secondary service, largely consisting of unattractively scheduled ancient equipment on runs of 200 miles or less. Wholesale annihilation of secondary train service was clearly no solution."

"7. Three groups have important stakes in the solution of the railroad passenger service problem: (1) The public expressing its policy through government; (2) railroad investors, through management; and (3) railroad labor through its organizations for collective bargaining. . . . The time (is) ripe for each interested group to contribute toward the solution."

is measured in the same manner as present-day passenger service.

"It is well known," he points out, "that revenues from many important classes of commodities carried in the railroads' carload freight service do not cover fully distributed costs—but as long as they more than cover their differential costs and contribute

something to overhead the railroads gain by carrying them.

"The latest (ICC) study, for 1953, states that revenues from 'products of mines,' which represented 57% of the total freight tonnage, covered only 73% of their fully distributed costs in that year. . . .

"Translated into dollars, it would

be possible to report astronomical 'deficits' from some of these important items of carload freight traffic. The 1953 'deficit' incurred from 'products of mines' traffic would be \$798 million while the 'deficit' resulting from handling 'products of forests' would be \$116 million. . . . But of course this is nonsense."



NOT THE FOOD but the people are "under glass" in this dome diner on the Union Pacific. Ten of these special

dining cars are in UP service, pointing up how that road merchandises all phases of its passenger operation.

THREE WAYS TO PUT More Dash in the Diner

New ideas are at work in the dining cars these days, promising higher standards in service and comfort for railroad passengers.

These modern innovations take many forms—plastic interiors using new techniques and materials, meals in the dome, and high-level dining away from the bustle (and heat) of the galley.

Passenger officers invariably speak of diners as a key item in maintaining traveler good will, despite the fact that the service can hardly be said to pay its own way. Latest ICC figures show it cost Class I railroads \$1.44 to get \$1 of dining car revenue in 1954. In that respect, the diner operation is something like a department store's "loss leader"—an item to help lure customers in for more important and profitable purchases. No doubt of it, good meals properly served in a diner can woo business.

The Rock Island's experience with

its new lightweight "Jet Rocket" probably illustrates how most passengers feel. Before placing the new train in service between Chicago and Peoria, the road queried passengers on whether they wanted a dining car or preferred meals served, air line fashion, at their seats. More than two-thirds voted for a regular diner, and today the "Jet Rocket" has one.

In the east, the Pennsylvania has recently placed in service two rebuilt dining cars, with all-new plastic interiors. The cars are the first in a continuing program aimed at pepping-up the interiors of PRR diners and lounge cars.

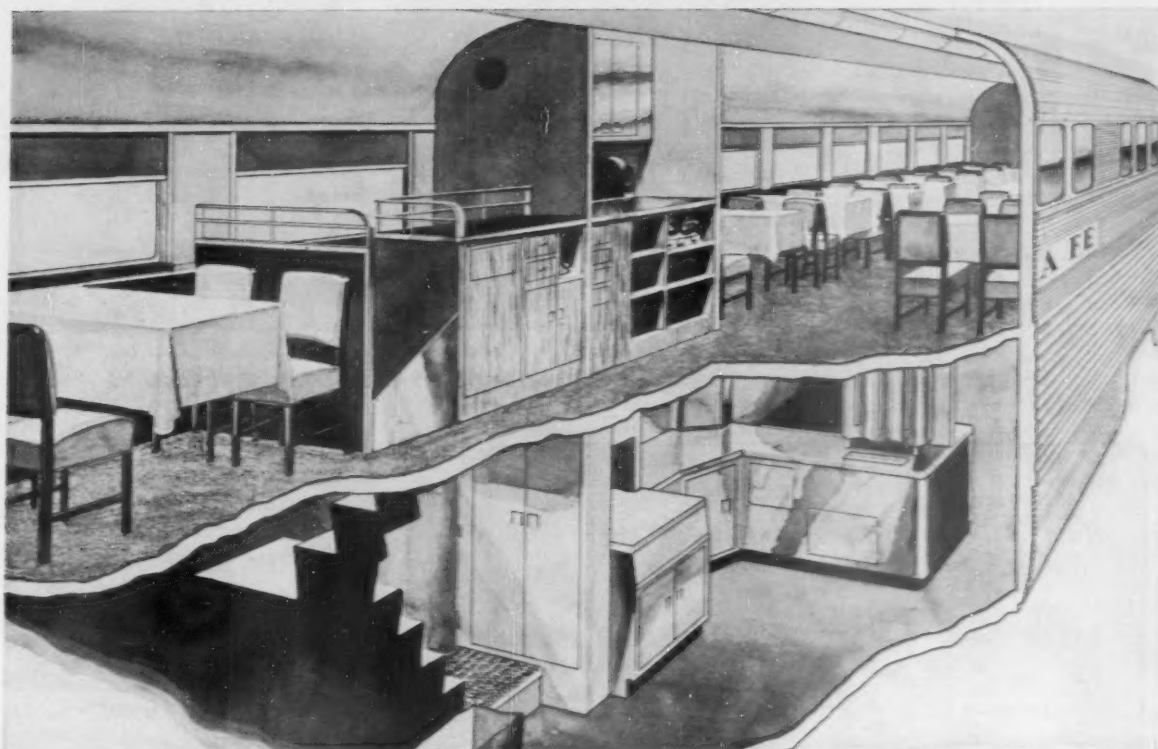
Ceilings, walls, steward's counter and chairs in these diners are covered with vinyl plastic materials in contrasting colors.

The coverings combine luxurious appearance with some very practical advantages. The materials are wear-resistant and reduce cleaning

cost because they can be quickly wiped clean with soap or detergent and water.

Car floors are of plastic tile, table and counter tops of burn- and stain-resistant laminated vinyl plastic, and window draperies of fireproof Fiberglas. The latter can be laundered by simply dipping and hanging "wet"—no drying or ironing required.

The PRR considers this wide use of plastic materials in diners as something of a milestone in economy of maintenance. The road believes the new materials will increase by more than 300% the life of each car interior redecorating job, thus greatly lowering redecorating costs. Finally, the plastic coverings make another contribution to passenger comfort by minimizing the noise produced by normal activity and conversation. Sound is absorbed and deflected.



A SOFT UPPER-LEVEL RIDE is also in store for dining car patrons on Santa Fe's "El Capitan." The new "Hi-

Level" cars slated to begin service in July include these two-level diners, with tables upstairs and galley below.

HOW PRR USES PLASTIC

Use of plastic coverings on the walls of a diner presents unusual problems in installation.

To avoid seams which would detract from appearance, the PRR used long continuous strips of the plastic material. These strips were coated with a special high-strength industrial adhesive, then applied with a roller to the steel plates of the car. Unbroken strips as long as 48 ft were rolled on in the single-unit diner, while in the twin-unit car, with two separate dining sections, the plastic strips are 27 ft. The use of these strips eliminated the metal beading that usually covers seams where steel plates join.

The special adhesive, developed by Minnesota Mining & Manufacturing, had to be specially applied, too. Since it was spread on both the bonding surfaces, the steel plates and the underside of the plastic, brushing on was slow and tedious. The PRR adapted a spray gun with a special nozzle for the job.



PASSENGER DEMAND helped the Rock Island decide in favor of this 32-seat diner section in the new "Jet

Rocket." The road originally considered meal service at seats, but patrons favored regular diner service.

been highly favorable, and he hopes to extend the program throughout most of 1956 and 1957.

When Mr. Williams and the passenger department began thinking about a training course late last year, the primary motive was to produce better qualified employees and to improve employee courtesy. But they recognized that you can't teach courtesy in a vacuum—courtesy is part and parcel of a man's overall approach to his job. To "teach" courtesy it has to be made part of a broader training effort. Employees need more than mere orders or instructions; an understanding of the "why" and "how" is fundamental. Realizing this need, the railroad turned to Richard D. Frank, assistant director of Cornell University's Extension Service for professional guidance.

Phrasing material for the course was the first step. It had to be in quick easy-to-grasp form; and, more important, the training message had to be "personalized" so any employee attending a class might visualize company problems as closely paralleling his own.

Basic subject matter for the course was therefore developed and a professional artist translated it into a 61-page cartoon-illustrated "text-

book." This "customer service manual," from which the accompanying sketches were taken, was made the backbone of the training program. As the preface reminds employees, the manual is designed "to help you in your everyday job of selling and servicing passenger traffic on the New Haven."

Meanwhile, it also was necessary to select and train teachers. This was tackled in a series of special Saturday sessions, also under the direction of Mr. Frank. Hand-picked supervisors from the passenger department attended these pre-school classes, studying teaching techniques and learning how to present course material in terms of "problems and discussions" at subsequent classes.

The New Haven's approach is couched in terms of passenger "wants." This constitutes the teaching situation from which, the New Haven believes, its employees will learn how to do a better job.

For use in the training course these passenger wants are grouped in three parts: How do I get there (route)?, When do I leave and when do I get there (schedule)?, and How much does it cost?

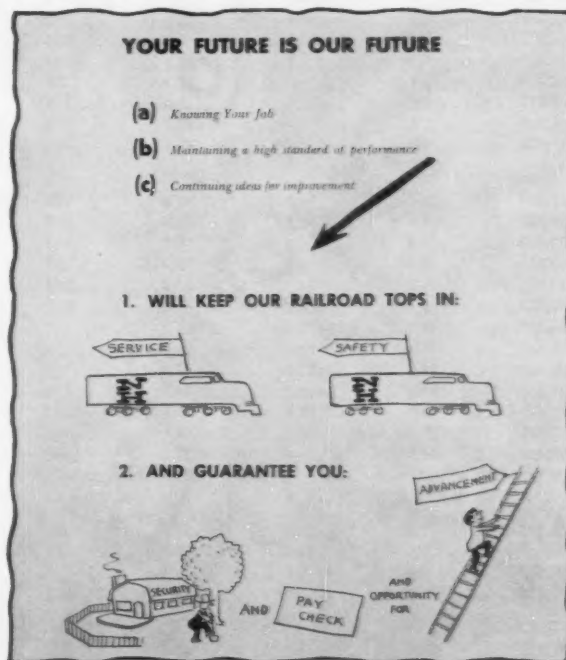
In the classroom work, the first question becomes largely a matter of geography—local routes, principal

interline routes and rail gateway points throughout the country. The second question, schedules, calls for familiarity with and understanding of both home and foreign line timetables and the Official Guide. The importance of checking reference marks is stressed, too.

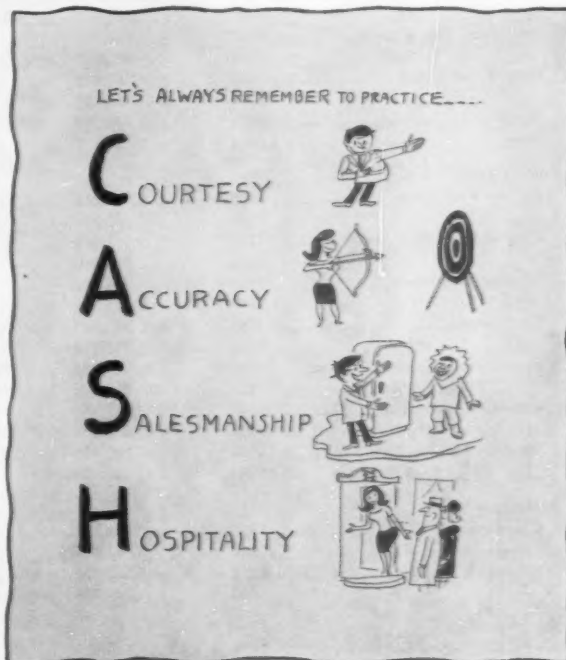
The final question, costs, is primarily a matter of tariff study. The training classes delve into the many kinds of passenger tariffs and how they're used. These range all the way from one-way trips on the New Haven to other territories and to miscellaneous tariffs on baggage, mileage, redemptions and the like.

Nor does the study end here. Once the employee is equipped with an understanding of his working "tools," he must use them to provide those extras that passengers demand. This is where courtesy and the helpful attitude is introduced—after the employee is thoroughly familiar with the mechanics of his job.

Given this, the New Haven ticket seller, information clerk or reservation clerk is ready to greet any customer with what the road likes to call the CASH approach—courtesy, accuracy, salesmanship and hospitality. The road believes the goal is worth going after.



EMPLOYEE IMPORTANCE is emphasized in terms of his own welfare. This is having a plus influence on morale, and sets the stage for more sales to happier patrons.



What's Happening in Passenger

FIGURES TO CLIP AND KEEP

Here, in one place, are significant statistics about the passenger business. You'll find train-miles and car-miles by railroad, revenue figures of 15 top roads, the comparative rank of rail and air carriers, and the national trend in passenger-mile and gross revenues for Class I roads

PASSENGER OPERATING STATISTICS OF LARGE RAILWAYS — SELECTED ITEMS FOR THE CALENDAR YEAR 1955 COMPARED WITH 1954

Region, road and year		Train-miles	Passenger-train car-miles	Passenger train cars per train	Percent un- serviceable of total locomotives	Train miles per train hour	Locomotive miles per locomotive day
New England Region:							
Boston & Maine	1955	5,892,511	32,113,828	6.5	11.0	33.7	111
	1954	6,055,976	32,603,012	6.1	13.9	33.8	106
N. Y., New H. & Hartford	1955	9,610,581	75,589,545	9.1	11.5	38.2	241
	1954	10,243,894	76,678,148	9.0	6.8	38.5	246
Great Lakes Region:							
Delaware & Hudson	1955	802,942	5,759,965	7.2	5.3	33.6	119
	1954	859,365	6,223,847	7.2	—	33.9	119
Del., Lack. & Western	1955	3,777,879	26,433,339	9.0	4.5	33.6	257
	1954	3,809,546	26,799,339	9.0	—	34.0	261
Erie	1955	3,925,390	32,277,040	8.2	1.6	39.3	171
	1954	3,946,801	32,660,712	8.3	1.4	37.1	149
Grand Trunk Western	1955	1,136,621	10,502,913	9.2	23.8	36.6	154
	1954	1,175,430	10,156,891	8.6	28.0	37.3	134
Lehigh Valley	1955	1,374,193	11,371,109	8.7	—	41.0	532
	1954	1,411,020	12,180,314	9.1	—	39.7	546
New York Central	1955	30,257,991	338,622,439	11.8	16.6	39.1	224
	1954	31,423,313	348,388,129	11.7	9.9	39.6	206
New York, Chi. & St. Louis	1955	1,179,204	8,882,823	7.5	14.3	41.4	235
	1954	1,175,037	8,835,653	7.5	7.1	41.6	234
Pitts. & Lake Erie	1955	367,870	2,238,433	6.1	—	37.8	179
	1954	382,465	2,303,271	6.0	11.1	37.6	125
Wabash	1955	2,659,723	21,941,879	8.3	—	42.2	416
	1954	2,650,876	21,919,594	8.3	—	41.9	414
Central Eastern Region:							
Baltimore & Ohio	1955	9,840,262	86,448,084	9.0	14.3	41.6	242
	1954	10,072,628	89,384,530	9.1	12.6	41.5	234
Central RR of New Jersey	1955	2,117,690	12,831,003	6.4	.5	30.7	126
	1954	2,152,515	13,263,011	6.3	8.3	30.3	97
Chicago & Eastern Ill.	1955	1,305,282	11,583,485	9.0	16.7	43.2	305
	1954	1,511,249	13,369,836	8.9	7.7	43.0	333
Long Island	1955	6,580,400	50,864,099	7.4	12.8	26.9	138
	1954	6,213,574	50,151,434	7.4	15.4	26.7	132
Pennsylvania System	1955	30,154,526	366,409,444	13.3	32.2	44.6	192
	1954	30,803,251	370,511,665	13.0	22.2	44.3	175
Reading	1955	3,467,176	17,477,112	6.9	12.8	33.0	131
	1954	3,538,395	17,973,992	7.1	10.0	33.1	130
Western Maryland	1953	180,490	408,498	2.3	—	23.6	249
	1954	179,336	439,743	2.5	—	24.1	124
Pocahontas Region:							
Chesapeake & Ohio	1955	3,645,732	33,674,386	9.8	29.3	35.7	230
	1954	3,793,042	34,090,647	9.5	24.0	35.4	197
Norfolk & Western	1955	2,826,534	24,409,563	8.6	2.8	36.8	222
	1954	3,049,928	25,421,353	8.3	5.1	36.1	221
Southern Region:							
Atlantic Coast Line	1955	6,243,922	77,492,327	12.4	1.9	43.2	333
	1954	6,986,534	84,964,957	12.2	3.8	43.1	372
Central of Georgia	1955	1,316,192	11,750,899	8.9	—	41.5	226
	1954	1,454,138	11,806,664	8.1	—	41.8	266

Traffic

Region, road and year

		Train-miles	Passenger-train car-miles	Passenger train cars per train	Percent un- serviceable of total locomotives	Train miles per train hour	Locomotive miles per locomotive day
Gulf, Mobile & Ohio	1955	1,786,347	16,402,098	10.2	10.5	43.0	228
	1954	1,904,952	16,511,415	9.3	10.5	43.1	251
Illinois Central	1955	8,189,658	78,800,806	11.4	10.5	38.5	444
	1954	8,247,451	80,888,532	11.7	8.5	38.2	288
Louisville & Nashville	1955	4,866,074	49,136,334	10.1	2.4	39.3	329
	1954	6,779,112	63,877,242	9.4	5.9	38.1	366
Nashville, Chatt. & St. Louis	1955	897,574	9,563,489	10.7	—	37.2	156
	1954	1,200,422	11,711,563	9.8	—	36.9	209
Seaboard Air Line	1955	5,621,642	60,345,787	10.9	9.4	43.4	474
	1954	5,669,902	59,194,316	10.6	8.6	43.4	438
Southern	1955	7,805,349	78,385,578	10.0	1.6	34.6	349
	1954	8,359,786	81,306,944	9.7	—	34.4	326
Northwestern Region:							
Chi. & North Western	1955	9,143,609	80,324,750	8.8	19.6	39.3	168
	1954	10,320,615	89,907,365	8.8	22.9	39.4	165
Chicago Great Western	1955	826,772	3,708,300	4.5	—	32.1	325
	1954	840,670	3,845,012	4.6	—	31.9	331
Chi., Milw., St. P. & Pacific	1955	8,268,130	73,017,000	8.9	8.3	42.9	314
	1954	9,181,453	80,059,346	8.8	7.3	41.5	260
Ohio, St. P. Minneapolis & Omaha	1955	1,268,113	10,003,208	7.9	15.4	36.8	269
	1954	1,311,539	10,651,332	8.1	13.3	36.9	242
Duluth, Missabe & Iron Range	1955	91,243	96,575	3.0	—	29.0	4
	1954	90,758	95,290	2.4	33.3	29.1	3
Great Northern	1955	7,118,401	71,424,441	10.8	2.2	40.3	402
	1954	7,377,643	72,946,159	10.6	2.3	39.8	429
Minneapolis, St. P. & S. S. Marie	1955	2,179,378	12,714,200	5.8	12.1	33.8	184
	1954	2,276,352	13,567,292	6.0	23.8	32.4	151
Northern Pacific	1955	5,649,011	49,965,292	10.1	8.7	38.9	293
	1954	5,957,790	52,437,108	9.9	7.7	38.0	280
Central Western Region:							
Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1955	21,346,203	248,884,594	12.3	5.0	48.4	562
	1954	22,017,145	247,361,740	12.1	5.0	47.0	471
Chi., Burl. & Quincy	1955	11,911,929	101,795,043	8.9	2.6	43.8	407
	1954	12,102,298	101,246,717	8.8	4.9	43.8	386
Chi., Rock I. & Pacific	1955	9,154,570	77,751,701	9.0	6.5	41.1	309
	1954	9,618,428	79,975,232	8.8	3.8	40.6	318
Denver & R. G. Western	1955	1,676,684	14,482,104	8.6	—	36.9	665
	1954	1,605,913	13,777,631	8.6	20.0	36.2	445
Southern Pacific	1955	10,684,660	151,801,253	14.3	10.4	40.6	285
	1954	12,517,782	167,188,748	13.4	17.8	40.1	236
Union Pacific	1955	14,348,670	177,921,550	12.6	21.3	49.9	367
	1954	16,282,636	204,225,721	12.8	12.8	49.1	336
Western Pacific	1955	1,005,657	9,060,820	11.9	—	49.1	510
	1954	993,635	8,804,042	12.0	—	48.6	491
Southwestern Region:							
International Gt. Northern**	1955	895,486	8,525,500	9.5	—	39.0	409
	1954	1,042,760	8,837,915	8.5	—	39.1	408
Kansas City Southern	1955	1,434,973	9,596,176	6.7	—	44.0	532
	1954	1,573,783	9,969,531	6.3	—	43.7	533
Mo.-Kans.-Texas Lines	1955	2,702,677	24,205,748	9.0	—	39.8	418
	1954	2,757,475	24,513,171	9.0	—	38.9	399
Missouri Pacific**	1955	5,841,715	53,629,582	9.2	12.0	43.6	321
	1954	6,419,089	56,515,853	8.9	13.6	42.9	401
Texas & Pacific	1955	2,344,309	27,218,937	11.6	9.1	42.7	587
	1954	2,340,548	27,385,667	11.7	—	42.6	586
St. Louis-San Francisco	1955	3,771,124	31,422,423	8.3	—	36.6	359
	1954	4,058,336	32,241,756	7.9	3.6	36.3	400
St. Louis-San Fran. & Texas	1955	77,850	373,254	4.8	—	32.5	213
	1954	87,835	449,007	5.1	—	31.3	241
St. Louis Southwestern Lines	1955	602,947	3,654,393	6.1	—	39.8	413
	1954	599,548	3,398,722	5.7	—	39.2	412
Texas & New Orleans	1955	2,478,719	30,050,276	12.1	—	42.6	454
	1954	2,808,902	33,969,018	12.1	12.5	42.1	484

** Report of trustee or trustees.

Source: Report M-200, Interstate Commerce Commission. Subject to revision.

MORE FIGURES ON NEXT PAGE

REVENUE SHIFTS ON 15 MAJOR PASSENGER-CARRYING ROADS SINCE 1946

	Year				Per Cent of Decrease		
	1955	1954	1950	1946	1955-1954	1955-1950	1955-1946
Pennsylvania	\$121,156,635	\$126,503,784	\$142,373,976	\$207,023,702	4.226	14.902	41.476
New York Central	100,663,475	106,568,158	116,597,098	148,109,502	5.540	13.67	32.034
New Haven	47,773,559	49,886,419	46,680,517	60,192,021	4.235	*2.34	20.63
Long Island	44,718,549	40,636,780	33,028,575	29,663,231	*10.044	*35.39	*50.754
Santa Fe	41,775,888	43,171,971	44,813,019	75,215,923	3.233	6.777	44.458
Southern Pacific	37,712,718	40,439,378	47,060,107	87,256,303	6.742	19.862	56.779
Union Pacific	30,208,680	31,574,599	33,159,662	64,767,863	4.326	8.899	53.358
Illinois Central	22,480,423	21,179,913	21,530,058	31,389,842	*6.140	*4.414	31.223
North Western	20,871,815	22,052,581	20,716,298	33,329,213	5.354	*7.50	37.376
Burlington	19,249,645	18,917,207	17,679,514	27,896,559	*1.757	*8.881	30.996
Baltimore & Ohio	18,651,438	19,368,822	22,285,329	36,037,308	3.703	16.31	48.244
Rock Island	17,140,245	17,467,883	18,110,045	29,706,826	1.875	5.355	42.301
Atlantic Coast Line	16,335,516	17,434,469	16,524,248	28,534,190	6.303	1.142	42.751
Southern	14,820,210	15,494,242	16,407,976	33,842,343	4.350	9.676	56.208
Milwaukee	13,837,923	14,916,558	17,538,857	28,313,790	7.231	21.101	51.126

*Increase.

PASSENGER FATALITIES

Year	Railroads (1)		Domestic air lines	
	Number of passenger fatalities	Rate per billion passenger-miles	Number of passenger fatalities	Rate per billion passenger-miles
1946	115	1.78	75	12.36
1947	75	1.63	199	31.52
1948	52	1.26	83	13.29
1949	29	.83	93	13.15
1950	184	5.79	96	11.48
1951	150	4.33	142	12.97
1952	14	.41	46	3.54
1953	50	1.58	86	5.61
1954	23	.78	16	.92
1955	19	.67	(2) 156 p	7.60 p

p Preliminary.

Sources: ICC "Transport Economics," April 1956.

(1) Represents fatalities to passengers on trains including subsequent fatalities.

(2) Excludes 39 fatalities at Longmont, Colo., resulting from bomb explosion. If included the number of fatalities would total 195 and the rate would be 9.49 per billion passenger-miles.

1955 PASSENGER-MILE REVENUES

		(Excluding Commutation)		Per Cent Decrease 1955-54
Passengers carried:				
Coach	167,423,633			2.5
Sleeping Cars*	16,785,468			5.9
Revenue passenger-miles (000):				
Coach	17,314,457			2.1
Sleeping Cars*	6,440,587			6.0
Passenger revenue:				
Coach	\$427,862,622			3.2
Sleeping Cars*	213,502,511			6.8
Revenue per passenger-mile:				
Coach	2.47¢			1.2
Sleeping Cars*	3.31¢			1.2
Average miles per passenger (per road):				
Coach	103.4			0.4(a)
Sleeping Cars*	383.7			0.1

* and parlor cars.

(a) Increase.

Source: ICC. Subject to revision.

RANKING OF LEADING RAIL AND AIR CARRIERS OF PASSENGERS

Carrier	Passenger-miles * (millions)			Rank		
	1955	1950	1946	1955	1950	1946
American Airlines	4,266	1,740	1,308	1	4	*
United Airlines	3,754	1,412	1,068	2	7	*
Eastern Airlines	3,342	1,227	803	3	8	*
Pennsylvania	3,324	3,822	9,095	4	1	1
New York Central	2,897	3,418	5,945	5	2	2
Trans-World Airlines	2,866	1,106	744	6	10	*
Atchison, Topeka & Santa Fe	1,943	1,881	4,024	7	3	3
Union Pacific	1,437	1,426	3,654	8	6	5
Southern Pacific	1,295	1,705	3,906	9	5	4
New York, New Haven & Hart	1,208	1,210	2,366	10	9	6

* Not among ten leading passenger carriers in 1946.

a Domestic travel, excluding commutation.

Source: AAR.

REVERSE TREND—1947-1955 AVERAGE PASSENGER-MILE REVENUE

YEAR	COACH		PARLOR AND SLEEPING CAR	
	Average Passenger-Mile Revenue	Gross Passenger Revenue	Average Passenger-Mile Revenue	Gross Passenger Revenue
1947	2.02¢	\$559.6*	2.74¢	\$336.0*
1948	2.29	556.2	3.01	331.6
1949	2.41	448.1	3.14	293.9
1950	2.47	431.0	3.25	303.4
1951	2.47	482.8	3.27	334.1
1952	2.53	498.9	3.35	318.2
1953	2.53	480.3	3.38	268.8
1954	2.50	441.8	3.35	229.2
1955	2.47	427.9	3.31	213.5

* Millions.

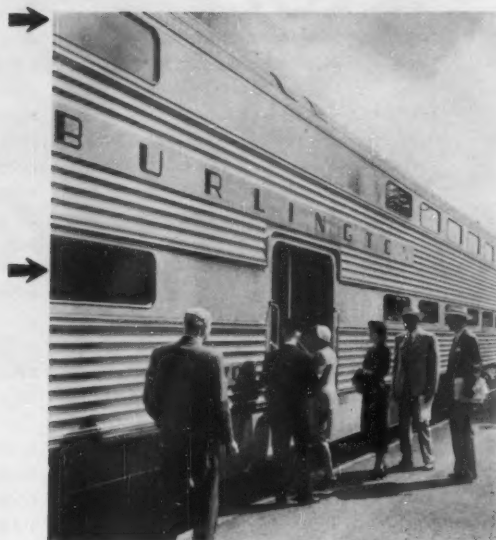
Source: ICC.

COMPARISON OF RAIL AND AIR LINE PASSENGER TRAFFIC

1946-1955 (Millions of Passenger-Miles)									
FIRST CLASS					COACH				
Year	Parlor & sleeping car	Air regular flights	Ratio air to rail	Excluding commutation	Year	Parlor & sleeping car	Air regular flights	Ratio air to rail	Excluding commutation
1946	19,801	5,948	30.0%	39,039	1951	10,226	9,294	90.9	19,524
1947	12,261	6,110	49.8	27,660	1952	9,504	10,183	107.1	19,758
1948	11,015	5,976	54.3	24,315	1953	7,950	11,042	138.9	18,955
1949	9,349	6,501	69.5	20,273	1954	6,850	11,448	167.1	17,687
1950	9,338	6,947	74.4	17,443	1955	6,441	13,103	203.4	17,314

The Commutation Noose . . .

Will equipment innovations like double-decker coaches . . .



. . . and such operating gains as reshuffled fares and schedules turn the trend? Or . . .

Must the Rope Pull Tighter?

The problem of unprofitable commutation service, and what if anything can be done about it, continues to get intensive attention on many railroads.

Just what it takes to put a money-losing suburban operation on its feet is a poser, and suggestions range all the way from closing up shop to local subsidies or tax relief. Short of these extremes, however, some new and practical approaches to the problem are showing up.

New high-capacity, gallery type cars which trim costs by reducing equipment ownership and increasing train seating capacity have been placed in service by the Chicago & North Western and the Southern Pacific. Both roads have more such cars on order. The Burlington, which pioneered these cars, has 50 of them in service.

The Boston & Maine is completing a major reorganization of its Boston suburban operations, based on the use of around 100 RDC cars—including 30 of the new RDC-9 units. The Jersey Central, Penn-Reading Seashore Lines, Baltimore & Ohio, New York Central and New Haven

have all effected service improvements by the use of RDC's in suburban operation. Cost savings have been possible, too, as indicated by one B&O operation which is described in an accompanying article.

Look Ahead Planning

Some railroad people who live with this commutation problem say the tap root of all difficulty is the lack of integrated planning, both at community and regional levels. Such planning, they say, is essential. It must appraise the value and place of all forms of transportation—automobiles, buses, rapid transit systems and railroads—in the local transport picture. New highway plans, for example, can have a severe effect on public transportation within an area. Often these highways create more problems than they solve.

There are transportation economists who believe the proper railroad role in suburban service is in longer distances (10-12 miles or more). Such service would have to be between high-density population points, and it should terminate before it

“runs out to pasture.” This type of streamlined service naturally would need maximum feeder service to build traffic density. Both buses and autos can serve as feeders—bus feeders fostered and encouraged in all respects, and autos attracted by plenty of parking space around suburban stations.

Realization of this goal requires, of course, that the railroads do some planning of their own. How can their service be made economically more self-sufficient? How can it be integrated with other local transport? Where is the railroad service economically weakest? Strongest? How can its strengths be capitalized upon? Railroads are finding they must aggressively “sell” both commuters and communities on the need for overall transportation planning.

Brick Up Revenues

If the feeder-type of service can be established with the aid of community-level planning and cooperation, successful operation then becomes a simple matter of cost vs. revenues. Much can be done—indeed, must be

done—to develop off-peak travel. Under present conditions the off-peak rider generally pays the highest fare and gets the slowest schedule, least attractive equipment, and most infrequent service. Yet it would appear that off-peak revenue can be earned at relatively low cost, and such revenues are valuable in offsetting the high cost of peak-hour services.

Proponents of the off-peak building plan argue that a railroad should aggressively seek mid-day and evening travel by means of reduced fares (charge a premium if any of these tickets show up on peak-hour trains), fast, attractive schedules and clean, comfortable equipment. In short, off-peak service should be the railroad's best—not its worst.

The trend toward suburban shopping centers enters the picture, of course, but can be countered three ways: (1) Featuring good rail service to stations nearest these suburban centers—even making use of local bus service to reach the center, where necessary; (2) increasing the attractiveness of in-town shopping by fast, attractive, inexpensive train service; and (3) creating entirely new stations which are shopping centers of themselves.

New Kinds of Fares

Perhaps the most intriguing of the commuter proposals is the one attacking the whole structure of present-day commutation tariffs and fares. This proposal is based on the contention that the real cost to a railroad of handling a commuter during peak hours does not vary proportionately with distance traveled. The cost of handling a commuter moving 10 or 12 miles, say, is little different from the cost of moving one 20 or 25 miles. Frequently, both ride the same train. The major cost items of crew wages, cost of owning and maintaining necessary locomotives and cars, the cost of the in-town terminal and of the suburban station, are but slightly influenced by the distance the individual commuter moves. Thus the man who commutes 40 miles and pays the railroad \$25 or more a month may actually be subsidizing the man who rides only 10 or 12 miles and pays only \$12 or so. To aggravate matters, traffic volume is always much greater from near-in low fare points—and this

is the area where traffic peaks and valleys are apt to be sharpest.

Present fares, based on mileage as they are, encourage the short-haul passenger. But he is the uneconomic passenger as far as the railroad is concerned. Empty seats must be run to and from outlying terminals to accommodate him, yet his revenue contribution does not reflect this fact. By raising his fare he would be encouraged to switch to bus or transit service, and by lowering the fare for the long distance commuter this travel would be stimulated.

Sloughing off the short-distance, low-revenue passenger would permit operating economies and, its proponents say, would have but comparatively small impact on gross revenues.

Put Vise on Costs

The need for trimming costs is obvious. By the very nature of commutation business, costs are pretty much set by peak-hour needs.

Suburban service roads have learned the value of planning their peak-hour operations on "minimums" and "maximums." These include minimum equipment ownership of cars and locomotives, minimum exclusive running tracks, minimum crews, minimum service and storage yards, minimum stations (unless provided and maintained by each community), and an absolute minimum number of crew and equipment terminals. Also they seek maximum possible revenues in off-peak periods, maximum revenue per car and per locomotive owned, and maximum revenue per crew-hour paid for.

To achieve these goals, individual railroads have found it necessary to buy new, high-capacity equipment (to reduce ownership), run heavier trains and increase the spread between trains (to reduce crew and locomotive requirements), and to speed up schedules (so as to achieve better crew and equipment utilization).

Most needed now, perhaps, are promotional and sales methods which will bring more dollars into the till.

HOW THE READING TACKLES THE COMMUTER PROBLEM

"In 1939, the cost of furnishing passenger service on the Reading was \$1.68 per train-mile. After the war, this cost spiraled rapidly and by 1949 reached \$4.53 a mile. In that year, our passenger deficit, based on the ICC formula, reached a high of \$9,316,000.

"Through persistent efforts we were able to reduce this deficit by 1953 to \$6,974,000, although the train-mile cost rose to \$4.86. By 1955, the deficit was reduced to \$5,999,000 and we were able to bring the cost of producing a train-mile of service to \$4.56.

"This reduction has been accomplished in the face of a loss of \$777,000 in revenue last year from the handling of mail, due to diversion to highway trucks, also a reduction of \$163,000 in revenue from the handling of express.

"We have accomplished these re-

ductions in our passenger deficit through operating economies, including discontinuance of lightly patronized trains and stations, the use of diesel power, and reductions in week-end service. These efforts, looking to further economies, are continuing.

"In addition to making these economies, the Reading is engaged in an aggressive advertising and promotion campaign to increase traffic during non-peak hours—between the morning and evening commuter rush. Our results in increased passengers and greater revenues have been encouraging.

"In view of the continuing traffic and parking problems in Philadelphia, the Reading is continuing its fight to obtain greater use of its facilities during the day by women living in the suburban area."

—J. A. Fisher, President, Reading



3 RDC "SPEEDLINER" CARS replaced conventional equipment in Baltimore & Ohio commuter service at Pitts-

burgh. The units operate close to 250 miles a day and produce transportation for around 21 cents a unit mile.

Quick Turnaround Time a Trend

Commuter operation at Pittsburgh is a laboratory in which B&O improves service while trimming costs

Question: How can a railroad cut its commuter service costs and at the same time provide more and better service?

Answer: Use equipment that operates cheaper, offers fast turnaround, provides improved passenger accommodations, and permits abandonment of out-dated and costly facilities.

The Baltimore & Ohio has succeeded in doing these things in a commuter operation between Pittsburgh, Pa., and nearby McKeesport-Versailles (17.7 miles). The setup is small enough to illustrate some significant basic principles.

A few years ago the B&O provided service with conventional equipment, tying up three locomotives and six passenger cars. Costs were high, with losses on the operation ranging to \$110,000 a year. Three engine crews and two train crews worked overtime, adding to costs. Yard expense, including a turntable at Versailles, didn't help.

The question before the railroad was simple: Take off the service entirely, or make it pay. It chose the latter.

In April 1953, the road replaced the entire existing operation with three RDC "Speedliner" units. Schedules were stepped up, more round trips added, and today the units are returning around \$25,000 a year above out-of-pocket costs.

Scheduling of the new cars, making use of their availability for quick turnaround, is the key. Formerly, the trains tied up overnight at the yard in Versailles, and both made early-morning runs into Pittsburgh. This meant calling the crews early, and it also meant expensive overtime before the trains terminated back at Versailles at 6:30 p.m. and 7:07 p.m., respectively.

Today, the three RDC's spend the night at the platform of the B&O's Pittsburgh station from which they will depart next morning.

The initial morning run to Versailles is at 6:15 a.m., and all three cars make two round trips before 9 a.m. Turn-around time at Versailles on the first run is ten minutes. On the second run, which turns at McKeesport, the turn time is five minutes.

Beginning with the third run out of Pittsburgh at 9:40 a.m., and continuing throughout the remaining six round trips daily, only two cars are used. This leaves a third unit free for maintenance or emergency use if required.

The final daily run—and one not provided at all under the old service—leaves Pittsburgh at 9:30 p.m., and arrives back in the station at 10:30 p.m.

Excluding labor costs, the RDC cars operate for around 21 cents per unit-mile. Labor costs have been reduced, too, because the two crews no longer work simultaneously. Overtime pay has been eliminated since the second crew begins work at 3:15 p.m.

In this stepped-up service, the RDC units are running close to 250 miles a day, and, according to the B&O, have been in continuous service without breakdown or failure. The facilities formerly maintained at Versailles are no longer used by the passenger department, and space there has been made available for other railroad uses.

A PASSENGER REPRESENTATIVE SAYS:

"Ticketing



HE ADDS: MORE OF THIS . . .

CITY TICKET OFFICES like this one (the Milwaukee, at Minneapolis) help speed service for large commercial accounts. Industrial firms often cite the need to eliminate delays in ticket transactions, charging that such delays add to overall travel costs.



WOULD MEAN MORE OF THIS

BUSINESSMAN ON THE GO. This kind of traveler represents a sizable portion of today's first class market. But do railroads do all they could to lure such customers? Some think not.

Controls Are Too Rigid"

He says: if air lines make friends by supplying blank tickets to volume customers on a do-it-yourself basis, why don't railroads do it, too?

Memo to passenger officers: Take a new look at how air lines provide ticket stock to commercial accounts.

The arrangement is simple, with all the details wrapped up in a one-page informal contract. In the case of American Airlines, the contract merely requires that a company be a subscriber to their air travel credit system; that it have an A-1 Dun & Bradstreet rating and use at least a "small volume" of tickets per month, and that the agreement be signed by an officer of the customer firm.

A company that meets these requirements can obtain a supply of blank tickets. Then, when a trip comes up, the necessary seat reservation is handled by phone, a ticket filled out and validated, the auditor's stub detached and the ticket turned over to the traveler.

Monthly Billing

At the end of the month, the company reports its total business to the air line for billing. This report shows each ticket used, fare and tax, who used the ticket and where. Cancelled tickets that were made out but not used are attached. When the air line gets this report, the company is billed for payment and the whole process starts over again.

Most railroad passenger men say such an arrangement for them is well nigh impossible. They point out that rail ticketing over more than one road is complex, that auditing would be a problem and that issuing ticket stock to non-railroaders would impose burdens which customers aren't equipped to handle.

In some cases that's true. But a surprising number of companies, even average-sized ones, now have full-time passenger men in their traffic departments. In the interest of simplifying their own jobs, reducing clerical and messenger time, and speeding reservations and ticketing

work, they might relish what looks like an added chore.

Already they're doing it for the air lines, and the air carriers are winning new friends, and possibly new business as a result.

Railroads might examine the arrangement with an eye on its public relations benefits.

One Company's Set-up

Take the case of the International Minerals & Chemical Corp., a mining and processing firm headquartered at Chicago. The firm has about 5,700 employees, 550 of them at Chicago and nearby Skokie, Ill. The company operates 70 mines and plants in 26 states.

H. H. Plaut is the company's full-time "passenger representative." He's part of the traffic department, headed by General Traffic Manager Eugene Landis.

According to Mr. Plaut, his company in fiscal 1955 spent close to \$450,000 on passenger travel. Less than \$35,000 of this amount went to the railroads. More by far went to the air lines.

Providing railroad ticket stock to such companies as International wouldn't even up the situation, it's true, but it might have other benefits. For one thing, Mr. Plaut is certain it would help his company get more for its travel dollar because it would reduce the cost of doing passenger business with the railroads. He puts it this way:

Rail carriers seem to go out of their way at times to make it difficult for the volume customer. Reserving space and ordering and buy-

ing tickets take extra telephone time, special messenger trips and added clerical effort. Special service desks to handle large accounts are rare or non-existent. These obstacles, Mr. Plaut believes, can do much to offset an otherwise good customer relations job.

On the other hand, a supply of railroad tickets similar to that provided by air lines would, Mr. Plaut believes, "work like a dream." He considers the present railroad credit-card system fair as far as it goes, but thinks it still is too complex for fast handling. He cites the special form that must be filled out each time the card is used, and again turns to an air line practice for comparison.

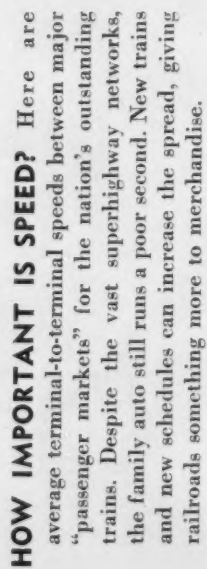
"They use a simple charge-plate. You present this plate at any air line ticket counter, sign your name, and bang! you're on your way. That's all there is to it."

Attitudes Can Hurt

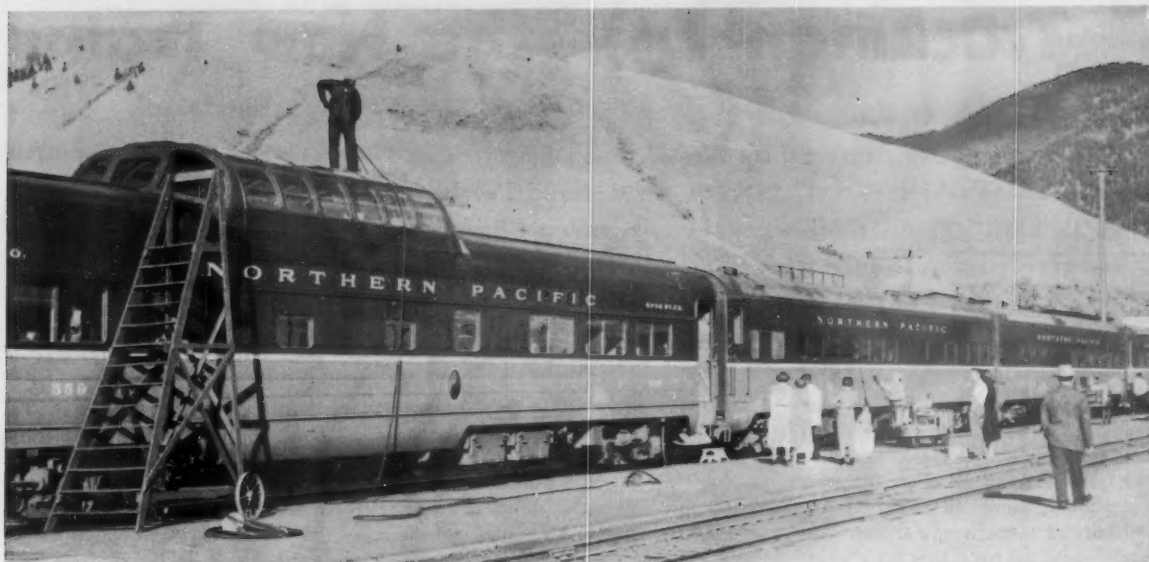
Mr. Plaut has been "called on" regularly for seven years by railroad passenger men. He thinks most of these salesmen do a good job in getting over the railroad story, but their work is apt to be short-circuited by poor "attitudes" in ticket offices and on trains.

"The approach so often seems to be one of 'we're losing money, so why try'," Mr. Plaut observes. In this respect, he agrees with many passenger traffic managers who argue that the constant harping about "deficit operations" creates a defeatist attitude among employees in passenger service.

"The approach so often seems to be one of 'we're losing money, so why try'."



HOW IMPORTANT IS SPEED? Here are average terminal-to-terminal speeds between major "passenger markets" for the nation's outstanding trains. Despite the vast superhighway networks, the family auto still runs a poor second. New trains and new schedules can increase the spread, giving railroads something more to merchandise



Seeing That Passengers Get Their

"It's the passenger who grumps to himself that ruins you."

Simply put, that statement pretty well sums up an important and continuing effort in the Northern Pacific's passenger department. Its aim: keep the customers happy.

G. W. Rodine, the road's passenger traffic manager, recognizes that most passengers don't tell the railroad if they're dissatisfied. They just walk off and don't come back. So, like a good many other passenger officers, he sees a big part of his job as heading off adverse reactions before they start.

Customer Relations

That can cover a lot of territory. One important phase, however—and one on which Mr. Rodine and his associates spend a great deal of time—is improving the "customer-minded" attitude of the station and train-service employees who comprise the railroad's "front" to the public.

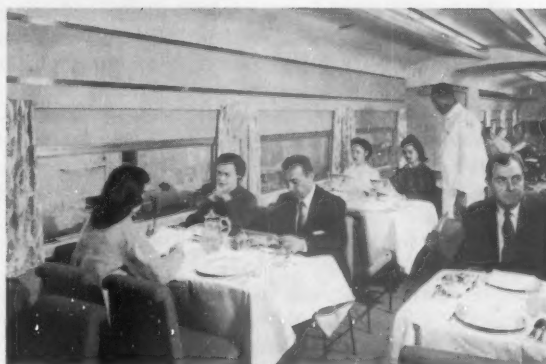
Mr. Rodine is convinced that a deft touch by these employees will produce, over the long pull, a lot of repeat as well as new business.

"We're a great deal like a department store," he explains. "The big difference is, they have to pay to get inside our 'store.' Once they're in, we want to make certain they get full value for their money."

One measure of the NP's success in pleasing its customers like this, and incidentally getting them back again, is provided by 1955 passenger figures. Despite a 5% drop in passenger train-miles, the road increased non-military passenger revenues by almost 7.5%. Even allowing for decline in military business, passenger gross was up nearly 2%. The year's average for the industry as a whole, meanwhile, was down 3.1%.



Money's Worth



A Trackman Eyes the New Trains

As a result of experience gained through operation of the Rock Island's "Jet Rocket" between Chicago and Peoria, H. B. Christianson, Jr., discusses the relationship between low-gravity trains and the track

We should continue making economically sound improvements to line and grade and track structure and terminals and all other features. We should more efficiently detect and correct track irregularities. We should keep the track safe for operating speeds. But we need not and should not spend more money on tracks solely for new passenger trains." These opinions were expressed by H. B. Christianson, Jr., assistant chief engineer of the Rock Island, in a recent talk on "New Trains and the Tracks" before the Maintenance of Way Club of Chicago.

What Is Riding Comfort?

Mr. Christianson defined comfort as "a composite feeling of well being." "Passenger comfort," he went on, "is determined by track, cars, train operation, train consist, location in car and train and the psychological and sensory factors." Concerning the latter two items, he listed such qualifying conditions as color, smell, temperature, fatigue, noise, smoking, eating and the attitude of the conductor or the person in the adjoining seat. He then asked the question: "For which of these is the trackman responsible?" His answer: "Like the carman, he is sometimes blamed for all of them, but the only one over which the trackman has direct control is track."

Explaining what was done to get ready for operation of the "Jet Rocket" between Chicago and Peoria, Mr. Christianson said: "We thought about many things but we didn't have to do any more than the usual 'sprucing-up' for a special event. This train, like other low-slung trains, is designed to use existing track and facilities. There are no clearance problems. The train can

run any turnout at slightly higher than existing speeds. It can run around a 22-deg curve."

The train is more sensitive to low joints at low speed than at high speed, according to Mr. Christianson. At high speed, the train reacts to a low joint, with 4 or 5 swinging ties, where the deflected track is $\frac{3}{8}$ in. out of crosslevel. His comment about such conditions was that "we should pick them up regardless of what train runs over them. Short swings—two to three rail lengths—and bridge and road-crossing humps or sags are more noticeable than before." One reason for this, he thought, is the progressive action of the first, then the second, and finally the third unit of an articulated open car when viewed by a person seated in the rear of such a car.

Concerning speed on curves, Mr. Christianson pointed out the car builder has shown that 6-in. unbalanced elevation speeds for the "Jet Rocket" match the commonly used 3-in. unbalanced elevation speeds of other passenger equipment. "But the center of gravity of the locomotive is 58 in. above top of rail, only $2\frac{1}{2}$ in. below that of the other passenger diesel engines. It turns out we could raise speeds about 5 mph on many of our restrictive curves."

"Track forces," he stated, "are concerned primarily with irregularities which cause lateral and vertical vibrations of the car body. . . . It is very difficult, even for an experienced rider, to separate noise, inherent car vibrations and other disturbances from vibration caused solely by irregular track. 'Rough spot' inspecting, like car building, is an art and I suppose it always will be an art. But, we certainly could use more theory, applied science and instruments in both."

For checking the riding quality of

track the Rock Island used a portable instrument, known as the three-way ride recorder, which looks something like the impact recorder used in freight service. After indexing many tapes taken of many rides in cars of different types, Mr. Christianson concluded that this device, "crude as it is," substantiates his own feelings of riding comfort or discomfort.

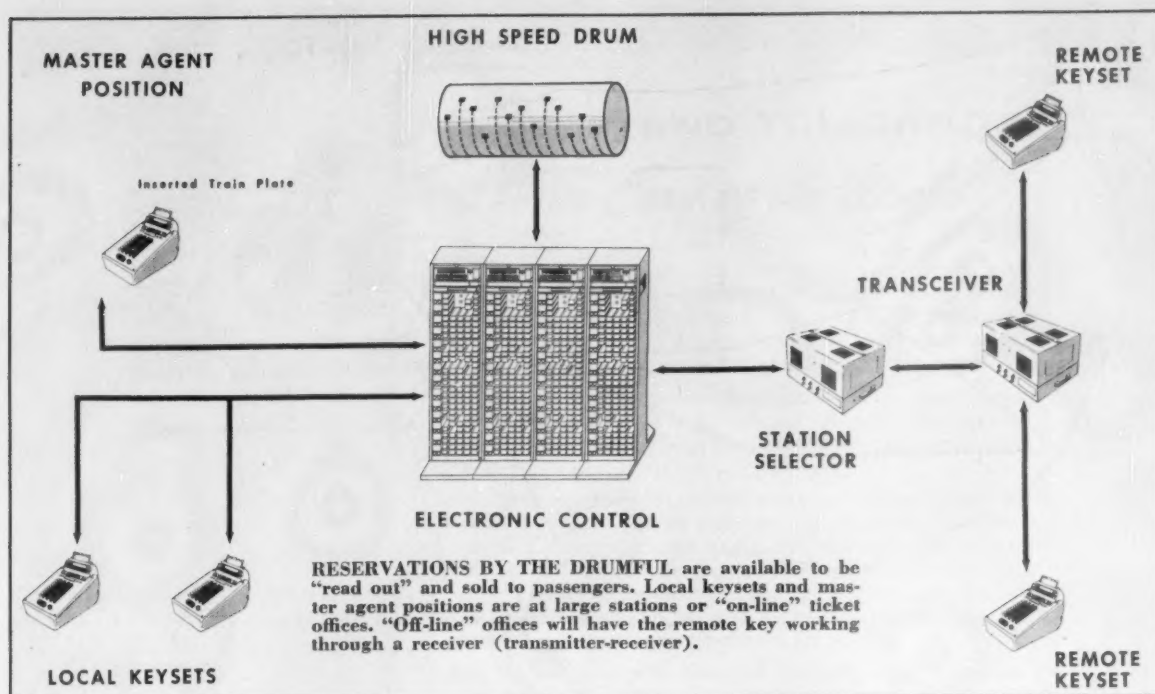
In operation, the recorder is placed close to a bolster or a car axle. It measures lateral and vertical vibrations of the car body. Tapes from these machines, comparing the action of the "Jet Rocket" with that of an ordinary lightweight car from the road's "Rocky Mountain Rocket" run three days later over the same track, drew these conclusions from Mr. Christianson: "Accelerations on the 'Jet Rocket' (the lateral and vertical vibrations indicated on the tape) were higher than on the ordinary lightweight car. Lateral vibration frequency at low amplitudes appears to be 1.5 cycles per second for the 'Jet', 1.0 for the other." Readjusting shock absorbers improved the ride, he added.

Welded Rail Reduces Noise

A comparison was made of the riding qualities of the "Jet Rocket" on continuous-welded rail and 39-ft rail, both on tangent and on a 0-deg 48-min curve. Mr. Christianson concluded that "continuous-welded rail reduces lateral acceleration—about 25 per cent. Furthermore, it reduces the noise level considerably."

It was expected that the lower undersides of the cars would pick up dust and chats, but test runs up to 103 mph failed to bear out this expectation.

Commenting on the physical facilities necessary for servicing the train, Mr. Christianson said: "We expect no immediate changes in fueling and watering facilities. The train lays over in Peoria, so we don't use our Chicago car washer. We may consider extending our inspection pit in Peoria to handle the 109-ft instead of the 85-ft car. Future wheel pits may be deeper; we are now getting by with an expedient method of removing an axle."



No Waiting for Reservations

New York Central, New Haven and Santa Fe join forces to provide coast-to-coast Pullman and coach seat reservations to passengers within seconds

How many times has this occurred at a railroad ticket office window? A passenger wants a roomette to California, and when he makes his request, the agent says "I'll have to wire for it. I'll let you know this afternoon or tomorrow morning." And the passenger walks away muttering to himself. If the railroad passenger man could provide fast reservation information to customers, he would not only have sales, but satisfied customers who would never (well, hardly ever) think of traveling any other way.

Electronics to the Rescue

What electronics and "giant brains" have done for other American business is now being done for the railroads. About five years back, several railroads decided that something could be done about the time-

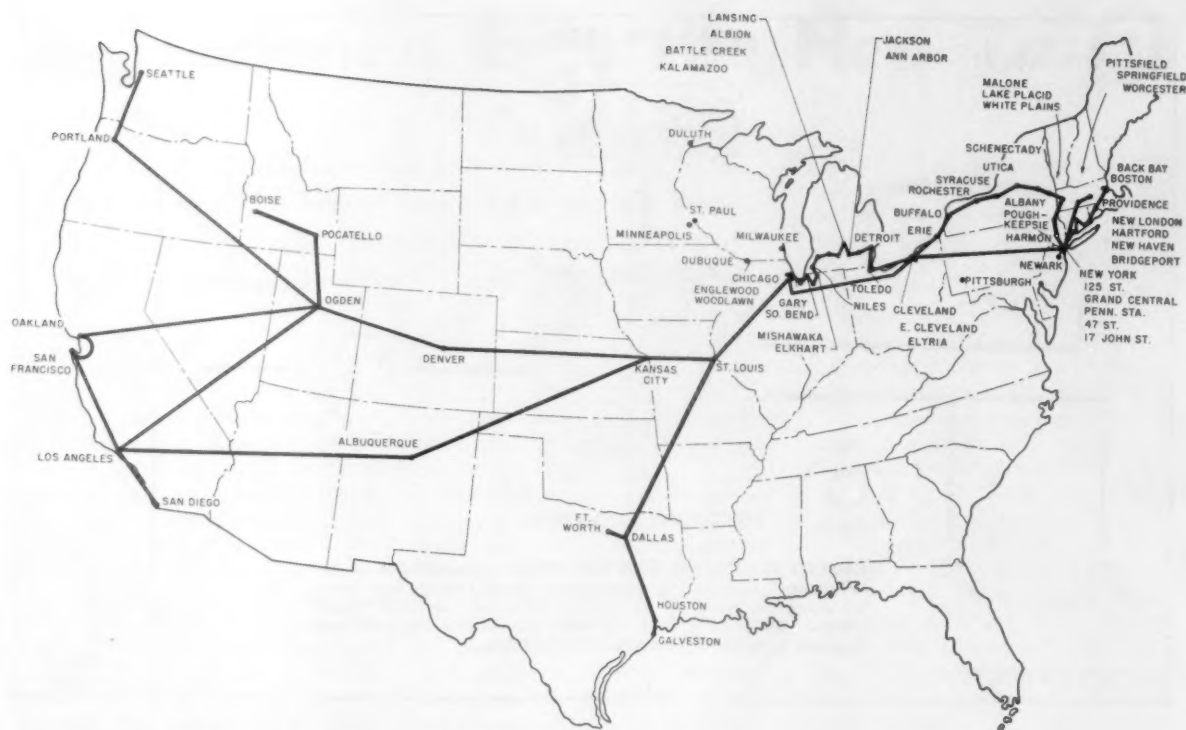
consuming process of obtaining sleeping, parlor car and coach seat reservations.

One group of railroads that studied the situation came up with an idea that the miracle of electronics and special purpose data systems could solve the problem. They consulted the Teleregister Corporation which had developed and installed a nationwide stock quotation system. Because the basic principles employed in the Teleregister system would apply to railroad reservations, Teleregister confirmed this thinking—an electronic reservation system could be built with an initial provision for enabling a ticket agent to find out what space is available and so inform the passenger within a few seconds.

The New Haven worked closely with Teleregister in the developments, and was the first to contract for this

system, but good news travels fast. The Santa Fe and New York Central joined the New Haven in creating a nationwide electronic communication system with data centers strategically located for handling reservations and allied problems. Some railroads have their own names for this new electronic reservation system, but the manufacturer—Teleregister Corporation—called it the Magnetronic Reservisor. Magnetronic is for the magnetic drum which stores the reservations and Reservisor is from reservation supervisory control.

Basically the system consists of an electronic device for the storage of information on available, reserved and sold accommodations, and a means of reading out this information and changing it from many remote ticket selling locations. The system, as now planned, will comprehend 60 cities on the AT&SF, NYC



COAST-TO-COAST RESERVATION SYSTEM is to be in service by the end of this year, and will include 60 cities. Heavy black lines show basic communications network.

and NH with agent's "keysets." The magnetic storage drums will be in New York and Chicago and will be able to store reservations for all trains of the three railroads for up to seven months in advance.

How It Will Work

Let's assume a customer walks into the Dallas ticket office of the Santa Fe and outlines a business trip from Dallas to Providence, R.I., via Chicago. Our passenger wants a roomette on the "Texas Chief" to Chicago and the "Commodore Vanderbilt" to New York with a parlor car seat on the "Bay State" to Providence. He may request specific space.

The ticket agent inserts a train plate for the "Texas Chief" into his keyset unit (looks like an adding machine), depresses keys for the departure date, and operates the sell button. Within five seconds or less the set prints a slip for the desired space. This same procedure is followed for the space from Chicago to New York and New York to Providence. Cancellations can also be made in this same way.

The fact that space is reserved is

recorded on the drums in Chicago and New York. At the end of each day, the electronic equipment automatically cancels all reservations which have expired without being picked up, making the space again available for sale. Wait list and automatic car diagrams are also provided. The Magnetronic Reservisor will handle automatically reservations and related transactions covering the sale, reservation and cancellation of space on all trains departing daily for a period of seven months in advance.

The electronic equipment, including the controls and magnetic storage drums, are now being built in Stamford, Conn., and final testing will be done this summer.

"This equipment will perform almost unbelievable tasks automatically and accurately at incredible speeds. We must adopt progressive ideas, use modern methods, replace obsolete equipment and glamorize our service. We must keep in tune with the times and make it easy and pleasant for people to do business with us." This is the way one railroad visualizes the effect of the electronics reservation system.

"We know that this system can do the job of making this critical customer service an asset rather than a liability and that it has future applications which can literally revolutionize our passenger service."

Teleregister engineers have been devoting considerable research to the problem of ticket accounting and it is projected that provision for this operation will be embodied in the overall system.

The electronic reservation system could be adapted to freight car location information, such information being stored on a magnetic drum. Every time a car goes through a major yard, that fact with the time and date can be sent via communications circuits to the central location. This same tape could be read into the drum. Freight traffic offices would have keysets, which would enable an agent to select a car and "read out" the latest information concerning that car's location. According to Teleregister, the freight car system is basically the same as the passenger reservation system, so that an electronic freight car locator service may be "just around the corner."

TODAY AND TOMORROW

-The Envy of the World

America's Railroads are the envy of the world. In no other country are so many passengers and so much freight, moved as quickly, safely, economically... as in the U.S.A. One million tons of freight move a mile every minute, twenty-four hours a day — at an average cost of 1½¢ for each ton moved per mile.

This amazing performance is largely due to *continuing* technical improvements carried on by railroads. This technical improvement will continue to keep American Railroads in the forefront next year — next century.

Working together with railroad operating and mechanical officers, SKF is playing an important part in constantly improving rail movement... making U.S.A. railroads "the envy of the world." SKF axle journal bearings for passenger cars, freight cars, and locomotives, and SKF traction motor and generator bearings are some of the reasons railroads are able to bring you such splendid service for so little.

To Railroads, as with American Industry, SKF's engineering service, experience and production facilities will keep SKF the symbol of *better bearings for Industry*.

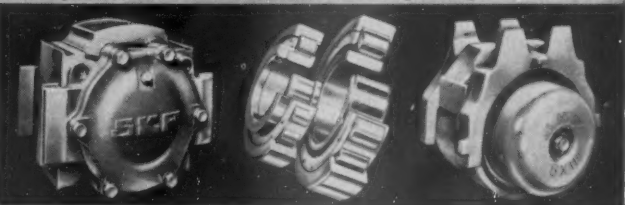
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SKF

BALL AND ROLLER BEARINGS

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.,
manufacturers of SKF and HESS-BRIGHT® bearings.
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Passenger Journal Boxes Traction Motor Bearings Freight Journal Boxes



Letters from Readers

Defends ICC

ATLANTA, GA.

TO THE EDITOR:

In regards to your Railway Age editorial of February 20th, entitled, Giving "Weeks Report Who-Done-It" Interest. I was greatly disappointed in the manner in which you have criticized the Interstate Commerce Commission.

I feel that your inherent urge to repeatedly denounce the commission results in weakening your editorials. True, this is a year of great possibilities for the long-delayed legislative reforms, and to this extent the entire railway field is very grateful for the educational job which Railway Age has undertaken; a job of enlightening the voting public. However, it is my contention that your method of editorial needling of the Interstate Commerce Commission is a bit childish, resulting in loss of persuasive powers which the editorial was meant to contain.

T. M. TAYLOR, JR.

[It is not our intention to reflect adversely on the ICC—for the ability and integrity of which we have the highest respect. The fact remains that some of its decisions seem to us to be patently anti-economic. These questions are not easy ones to resolve and they never will be resolved unless they are discussed openly. It is to the advantage of the ICC, no less than to other interested parties, that these controversial questions be brought out into the light of day.—EDITOR]

Handling Passengers' Luggage

HINSDALE, ILL.

TO THE EDITOR:

This alteration might be welcomed by a significant percentage of railroad passengers.

How easy it would be from the traveler's viewpoint, if he could have the heavier of his two suitcases taken from his home to final destination, with no attention to it whatever on his part en route. From one end of the trip to the other he then would be concerned only with a small bag containing the things needed on the train. Passengers

now may check their heavy baggage, to be relieved of it while aboard, but it must be rehandled at destination.

Railway Express Agency is a far-flung organization with close railroad affiliation. Why could an agreement not be drawn between the railroad and Railway Express, and local transfer companies, to this effect:

Upon the showing of his ticket at a baggage counter, a traveler's trunk or luggage could be checked from his home to his destination hotel, or other stopping place, Railway Express or the local baggage carrier to attend to the pick-up and delivery at both ends. For this cartage there would be a fee, but the traveler still would be entitled to free carriage of his baggage on the train. In other words, from the customer's viewpoint it would be the same as sending his heavy suitcase by express, except that it would be cheaper. He would be charged only for the local carriage at each end, including whatever incidental charges might be involved. If desired, the baggage could precede the traveler by a day or two without incurring storage charges at the destination terminal. . . .

If the customer chose to provide his own local cartage at both ends he still could do so. Or, he could have the Express Agency deliver the luggage at the far end only, thus relieving him of the transfer details at the destination terminal. For delivery at destination only, the charge would cover only that service.

All charges should be known and paid for in advance. Their establishment might be on the basis of zones of distance from terminals. . . . When a traveler makes his choice of means of travel he mentally weighs the factors involved in each. Any move, large or small, that will make rail travel more attractive should help bring customers to the rails.

HUGH G. DUGAN

Non-Sparking Metal

READING, PA.

TO THE EDITOR:

The March 5 Railway Age carried an article entitled "Ways to Cut Cotton Fires" which was of particular interest to many members of this organization. For years we have concerned ourselves with similar problems and have been more than successful in answering many of the demands of industry for a strong mate-

rial in the "non-sparking" category. . . .

We believe that beryllium copper, a non-ferrous alloy with strength comparable to steel, may well be the solution for many of the railroads and for the shippers of cotton as well.

ROBERT D. FLEISCHER
Sales Manager
Safety Tool Division
The Beryllium Corporation

Passenger "Deficit"

NEW YORK, N. Y.

TO THE EDITOR:

It seems to me that Professor Parks, in discussing "Who Makes Up Passenger Losses" in Railway Age for February 27, completely ignores one vital factor, and thus entirely negates the value of this discussion.

Theoretically, at least, the federal government is not interested in collecting taxes at a certain rate; it is interested in collecting a certain amount of money, and the tax rate is set to produce that amount of money.

If, therefore, the passenger deficits were eliminated, and the profits of the carriers increased correspondingly, the tax rate would be or should be so adjusted that the carriers would still pay the amount of taxes that they do now.

I appreciate, of course, that the tax rate could not be justified for the benefit of rail carriers alone; actually, the benefits would accrue to all taxpayers, but the rail carriers' taxes would certainly not increase in direct proportion to the reduction in the passenger deficit.

I trust also, that Professor Parks appreciates that his discussion is small consolation to the carrier not in the tax-paying class.

F. W. POLLOCK
Auditor of Revenues
New York Central System

[It is probably true that the federal government sets out with a certain tax "take" from business in view, but does it pinpoint this "take" objective down to specific industries? We doubt it. The federal income tax payments by the railroads fluctuate much more widely than the rate of the tax. Such payments were \$613 million in 1952, \$533 million in '53, \$226 million in '54 and \$417 million in '55.—EDITOR]

*The shortest rail route between
New York and Buffalo
is one of the nation's smoothest
when you ride...*

THE PHOEBE SNOW THE WESTERNER THE NEW YORKER

Diesel-powered streamliners speed you in luxurious comfort and safety through one of the most scenic spots in all the nation. Connections at Buffalo take you on to Chicago, Cleveland and Detroit without changing trains. Convenient arrival and departure times. Going East, or going West, next time ride the Lackawanna.

*For complete schedule information and Bargain
Fare Travel rates phone your Lackawanna Agent.*

Lackawanna Railroad

THE SHORTEST RAIL ROUTE BETWEEN NEW YORK AND BUFFALO





Cable Will Link Upper and Lower Michigan

The four four-mile lengths of cable shown here leaving the Paterson, N.J., plant of the Okonite Company will be laid underwater across the Straits of Mackinac to link electrically, for the first time in history, the upper peninsula of Michigan with the lower part

of the state. Four flat cars were used to transport the 750,000-lb of 46,000-volt cable. The shipment moved to its destination via the New York, Susquehanna & Western, the Erie, the New York Central and the Duluth, South Shore & Atlantic.

(Continued from page 13)

going needed revenues in their behalf, but noted that some of the rate levels and relations have been designed not only for the benefit of the producer and shipper, but also to enable the railroads to participate in traffic from producing areas to distant markets.

"Starting with bases of rates which were already relatively lower than the general body of rates, because they applied on agricultural products," the commission declared, "we have tempered the application of the several general increases on agricultural commodities by permitting a lesser percentage than applied generally, frequently accompanied by maximum holdowns.

"As a result, the rates on some of these agricultural commodities have been increased at a lower rate than the costs have increased."

As to cotton, the commission noted objections to application of the percentage increase on compressed-in-transit rates on carload shipments of cotton from California and Arizona. Under these rates, the carriers assume the cost of compression of the cotton before delivery to eastern connecting lines up to specified maximum amounts.

As a result, it was contended that the net rate would go up more than 6% and the commission therefore specified a maximum increase of 9 cents per 100 pounds as the most equitable solution of the problem.

Vote Ends Loose Journal Box Packing

Loose journal box packing is to be banned from all plain-bearing freight cars in interchange service, effective January 1, 1960.

The General Committee of the Mechanical Division of the Association of American Railroads which set the effective date, after AAR members approved the action by letter ballot, said the date may be

extended if necessary. The division committees involved have been instructed to prepare rules changes and revised regulations.

The March 5 letter ballot produced "in favor" votes from owners of 1,204,217 freight cars, "against" votes for 719,115 cars, and no ballots from owners of 24,919 cars.

The letter ballot defined "loose

journal box packing" as: "(1) Mass waste packing in boxes with or without packing retainers. (2) Mass waste packing in boxes with integral or bolted on journal stops. (3) Hand or machine made roll packing as in (1) and (2) above." Not considered loose journal box packing are: "(A) Waste used in pads where thread ends are secured by stitching or plastic attachment to pad. (B) Mass waste packing used in containers such as Plypak."

The general committee decided that rather than submit a series of specific rules changes, only broad principles would be outlined in the ballot. It was intended that member roads should first give approval to the basic change and at the same time offer suggestions which would allow the change to be instituted in an orderly manner.

The general committee recommendation read: "To adopt as AAR Standard practice the use of approved designs of journal lubricating devices in lieu of loose journal box packing, this requirement to become effective for all freight cars with plain bearings built new, rebuilt, or receiving heavy repairs to the extent of 100 man-hours or more on and after January 1, 1957, and for all such cars in interchange service on and after January 1, 1960."

Comments accompanying the ballots led the committee to move the effective date for new, rebuilt and repaired cars from January 1 to August 1, 1957. No change has been made in the 1960 date for blanket application, and the committee said every effort should be made to meet this date.

Great Northern to Assist Mesabi Taconite Studies

An economical process for production of useful steel-making concentrates from non-magnetic taconite found in the Mesabi range is the goal of a research project to be undertaken by the Great Northern in cooperation with the Universities of Minnesota and North Dakota.

John M. Budd, GN president, said, "we will work closely with the Minnesota Mines Experiment Station, which, under the leadership of Professor E. W. Davis, contributed so conspicuously to the development of a successful processing method for the Mesabi's magnetic taconite."

**ATLANTIC
COAST LINE
RAILROAD**



**NEVER
FELT RICHER
...NEVER SPENT LESS**

Summer vacation money goes so far in Florida, you (might) even have some left over to take home! But it never goes further than when you are on a Coast Line *Champion Vacation* package tour.

CHAMPION VACATIONS

"THE SMARTEST WAY TO ENJOY FLORIDA"

Providing for 7 days and 6 nights at a choice of fine hotels or motels, Champion Vacations are available in these Florida resorts for as little as: CLEARWATER, \$27.00; DAYTONA BEACH, \$22.50; FT. LAUDERDALE, \$27.00; MIAMI BEACH, \$19.00; ST. PETERSBURG, \$17.95. These rates are per person, double occupancy.

NO NEED TO TAKE YOUR CAR ALONG

... you might wear yourself out. So let Coast Line engineers do your driving. Revel in the fun and comfort of modern train travel. Arrive rested and then drive around if you like—in a rental car! It's the thing to do. And rates are so reasonable.

RAIL-AUTO PLAN — "Too Good to Miss"

Railroad Ticket, Champion Vacation and Rental Car reservations may be made through any Travel Agent, Ticket Agent or ACL Passenger Office.

**THERE IS NO MORE COMFORTABLE TRAIN RIDE THAN
OVER THE RAILS OF ATLANTIC COAST LINE RAILROAD**





Magnesium Ramp Gives Nickel Plate Piggyback Extra Flexibility

Turning the loading ramp instead of switching the flat cars saves the Nickel Plate much time at piggyback terminals in Cleveland, Chicago, St. Louis and Toledo. Ramp, shown (left), being moved into place on retractable wheels, is produced by Magnesium Company of America and costs NKP about \$8,500 in purchase through Brandon Equipment Company. Device overcomes difficulty presented in inter-

line t-o-f-c service in which trailers can arrive at terminals for unloading "facing" in either direction. Rather than switch cars to get all trailers headed same way, section of track is kept open and hard-surfaced as in photo at right so ramp can be maneuvered with truck power unit to either end of flatcar as it is spotted at unloading point in piggyback terminals.

T-O-F-C Potential Called Unlimited

Piggyback growth, spurred by recent and pending developments, may be boundless—Its direction unpredictable

Whatever course piggyback follows in the future, its role is assured as a dynamic factor in the increasing tempo of the railroads' campaign to recapture business that has slipped away in recent years.

Equally certain, judging from the comments and the interest displayed at a May 15 meeting of the Eastern Industrial Traffic League in Philadelphia, is that trailer-on-flat-car service as it is known today is only the beginning.

A panel consisting of three railroad spokesmen, an industrial traffic man, a representative of the Rail-Trailer Company, and an officer of an intercoastal ship line, stated their views on piggybacking and then submitted to extensive questioning from shipper representatives.

Big Future — Among developments and possibilities heralded as outstanding in the t-o-f-c future were these — each in a different stage of its own growth: The lightweight cars promoted by Piggyback, Inc. and being built by Pullman-Standard for use on the New Haven and Boston & Maine; use of 1,000 ACF "Adapto" cars on the Pennsylvania in piggyback service; design of a retractable stanchion for installation on t-o-f-c flatcars to eliminate need for other hold-down gear, and which would permit hauling of any trailer body without need for special wheels or other apparatus on it; like-

lihood that increasing numbers of refrigerated trailers will be hauled in t-o-f-c movements; possibility that private carriers will soon participate in piggyback; possibility of a nationwide trailer pool being established for t-o-f-c service to eliminate or at least reduce empty back-haul movements; and the likelihood that railroads would get shipper support before the ICC if they were to file piggyback tariffs to meet the rates of private or contract carriers, even though the proposed rates would be lower than common carrier truck rates for the same movement.

The Panel — Representing railroads were J. H. Miller, Jr., manager, t-o-f-c service, Reading; H. M. Johnson, Jr., assistant to general manager, freight rates, PRR; and W. L. Weinacht, Rail-Truck traffic manager, Western Maryland. Other panelists were Palmer Bayer, assistant to president, Rail-Trailer Company; J. F. Kuenhold, general traffic manager, eastern territory, Sears, Roebuck & Co.; and J. C. Tatersall, district manager, Waterman Steamship Corporation.

Mr. Bayer advocated further extension of the so-called "Plan 1" piggybacking service involving use of common carrier truckers, while Messrs. Miller and Weinacht supported all-rail-property service — "Plan 2."

Mr. Bayer's argument was that

the common carrier plan frees the railroad of having to load the trailer for return movement. He said his company has been successful in a trailer pool where it leases the trailer to a truck company on a one-way basis, requiring only that part of the movement be via t-o-f-c.

One shipper raised the question of how railroads hope to win traffic from truckers without providing better rates where truck service is satisfactory. He suggested that, since truck movements have "apparently" reached maximum city-to-city speed, railroads could best emphasize fast service and should strive for quicker turnaround time. The national trailer pool might facilitate this, he said.

Mr. Bayer minimized piggyback's effect on highway congestion, commenting that the operation could not possibly handle enough trailers to matter in this respect.

More Rate Experimentation — Another shipper declared that railroads had not experimented enough rate-wise with piggyback, and added that they ought to try to meet exempt carrier competition with the operation. He thought the ICC might favor such action.

Agreeing with the other rail spokesmen that LTL, refrigerator and private-carrier piggyback service might work, Mr. Weinacht said "everything is a possibility, and railroads are constantly studying new extensions, new approaches and new developments in the service."

More News on page 115



PROGRESS . . . IN PRACTICE

There has never been so much exciting activity as right now, in the field of designing and building railway passenger cars.

Road blocks of habit, indifference and prejudice have been demolished. Our entire business life has been concerned with the development of new ideas. And now the railroad world is clamoring for new ideas . . .

Ideas that can reduce the purchase price of new equipment . . .

Ideas that can save operating and maintenance costs . . .

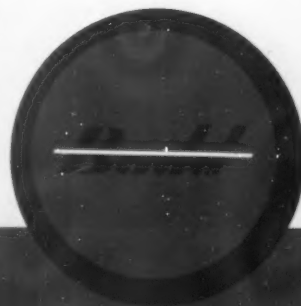
Ideas that can make rail passenger service attract more traffic . . .

Ideas that can give rail service a stronger position competing with the highways and the airways.

Ideas translated into practical, desirable, inspired forms by engineering skill and production ability.

An imaginative railroad man would get a tremendous thrill out of a visit to our Red Lion plant, where new ideas practically bristle on our assembly lines. If you can come, you're invited. We promise you it will repay your time and effort.

But realizing that only a few of those who would like to come can do so, on the following pages is a brief summary of some of the more important and revolutionary things we are doing. So rest your feet, visit The Budd Company on paper, and see how, through imagination and ingenuity we invent and tailor cars to fit different types of passenger service. The Budd Company, Philadelphia 15.



**SIESTA COACH
FOR THE
BURLINGTON'S
NEW DENVER
ZEPHYRS**

The car is eighty-five feet long and of standard cross section. It is designed to put comfortable, safe rail travel within the financial reach of many who stay home because they cannot afford Pullman costs, or who travel by other means.

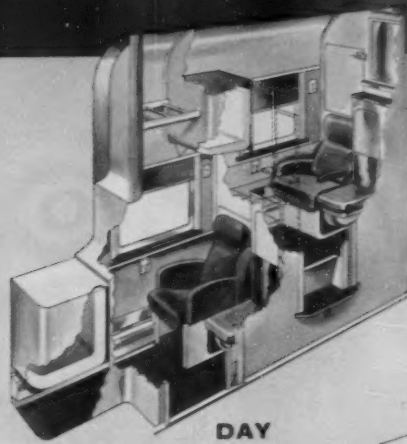
It provides enclosed sleeping accommodations, in any desired combination of single and double rooms, for forty coach passengers. Each room has a bed more than six feet long, lavatory, toilet and full length mirror. The Burlington will provide this accommodation to coach passengers upon payment of a small occupancy charge. The cars are equipped with Budd disc brakes.

**HI-LEVEL
CHAIR CARS FOR
THE SANTA FE'S
FIVE NEW
EL CAPITANS**

Right now, on parallel assembly lines, you can see a startling contrast. On one line, cars nearly two feet lower than conventional cars. Next door, cars nearly two feet higher—the Hi-Level cars we are building for the Santa Fe's new El Capitans. Their capacity, on 50 inch seat centers, is 72 passengers, all of whom ride "upstairs", where all is quiet, pleasant, and seemingly unhurried. Ten of these cars provide the equivalent capacity of sixteen standard coaches. This lowers costs, and releases diesel units for other services. 47 of these cars are being delivered, all equipped with Budd disc brakes.

**SELF-PROPELLED
"FLYING CLOUD"
FOR THE
NEW HAVEN**

This train is composed of six cars, all of them self-propelled, with engine cabs and controls at each end of the train. Each car has two 300-horsepower diesel engines, giving the train an extraordinary power-weight ratio which provides not only high speed, but, fully as important in meeting the New Haven's schedules, tremendous pick-up. The absence of a high-center-of-gravity locomotive, and the use of Budd disc brakes also contribute to faster operation. Electric traction motors are installed to bring the train into Grand Central Station.



Bull



LOW LEVEL, LIGHT WEIGHT, STAINLESS STEEL TRAIN FOR THE PENNSYLVANIA

For more than twenty years we have worked with the country's major railroads in designing equipment to suit a particular purpose, and this policy is reflected in these "Tubular" cars we are building for the Pennsylvania. The seven passenger cars have a capacity of 574 seats. The eighth car provides the power for light, heat and air conditioning, and also contains space for the preparation and serving of chair-side meals. The cars are only 11 feet 11 inches high, have a center-of-gravity 45 inches above the rails, and weigh 87,000 pounds. They are all equipped with Budd disc brakes. The train will operate between New York and Washington.

RDC WITH A NEW LOOK

The new RDC reflects the experience of many millions of miles of RDC operation, and incorporates a multitude of improvements, large and small that make it better looking, inside and out, more comfortable, stronger and safer, increase its capacity and performance and make it more economical to maintain.

More power. Greater collision strength. More air-conditioning capacity. Larger wheels for longer wheel life. Permanently colored plastic interior surfaces that need no paint. All that has been so thoroughly proved, is here improved.



Budd

Southern Fares Up 5% May 15

Passenger fares of southern railroads went up 5% May 15 after the Interstate Commerce Commission issued a May 11 order approving the increase. A like increase became effective in other sections of the country May 1 (*Railway Age*, May 7, p. 11).

The commission's order noted that no pleadings in opposition to the southern increase were received. It approved the raise after consideration of supporting statements filed by the carriers.

Faricy Sees RR Future Matching Recent Pace

Predicting developments at least matching those of the last generation, AAR President William T. Faricy told the Oklahoma Chamber of Commerce May 10, that railroads will remain "the foundation of our continental commerce" in the future.

The railroad future, he said, is "foreshadowed by what they have done and are doing." Comparing the peak non-war years of 1929 and 1955, Mr. Faricy said "more intensive and more efficient" use of today's smaller plant accounts for more transportation service.

He said freight-car utilization has been increased 72% in the face of the five-day week, while average speed of freight trains has gone up 41% since 1929, with a coincident 71% rise in average freight-train load. The result, Mr. Faricy said, is a 139% increase in the hourly output of transportation by the average freight train.

Canadian Roads Grant \$80 Million Non-Op Rise

Canadian railroads have accepted the report of the Conciliation Board set up by the federal Labor Department and signed a contract granting wage increases and "fringe" benefits to 150,000 non-operating employees.

The agreement, which the railroads estimated would cost them \$80,000,000 (*Railway Age*, Apr. 30, p. 5), will be effective for two years.

The agreement awards a wage increase of 11% to be spread over the next 14 months, with part of it retroactive to January 1. Welfare benefits make it a 20-cent rise.



Alco Road Switchers Go to Pocahontas Roads

Since introducing them in February, Alco Products has sold more than 70 DL-701 1,800-hp road switchers, including this unit, which is part of an

order for 17 delivered to the Norfolk & Western. The Chesapeake & Ohio has received a six-motored, six-axled version, which Alco calls the DL-702.

Quotas Lift Ticket Sales On T&P

A sales quota setup for ticket agents, creating competition between stations, has put a lift in passenger sales on the Texas & Pacific.

The system is credited with helping boost the road's 1955 passenger revenue beyond first-of-year estimates. During the year, 22 out of 31 stations made or exceeded their assigned sales quotas. Passenger revenues amounted to \$3.95 million instead of the anticipated \$3.75 million.

How It Works—An estimate of T&P passenger revenue for the coming year is prepared in the fall.

The road then looks at figures for the current year and determines the ratio between actual passenger revenue and total ticket sales. This ratio is applied to the coming-year forecast, indicating what ticket sales must be to produce the estimated figures.

At the beginning of the year agents are furnished a statement

showing their month-by-month quota for the coming 12 months. Progress reports are then issued monthly. A special circular at mid-year shows each station's standing for the first half. A similar "honor roll" is published at the year end.

There is no financial incentive plan in connection with the quota setup.

The T&P first used this quota system in 1953, and in that year ticket sales ran 92.6% of quota. In 1954, as agents displayed more interest in the plan, ticket sales rolled up 99.1% of quota. Last year they were up to 105.4%.

T&P passenger officers cite these increases as evidence of the plan's acceptance by the agents. They point out that only four stations made their quota the first year, whereas there were 13 in 1954 and 22 in 1955. Of the 31 stations involved, 17 have improved their showings in each succeeding year.

State Subsidy Urged for Commuters

"It's cheaper to subsidize railroad commuter service than to build highways," George R. Perrine, chairman of the Illinois Commerce Commission, told *Railway Age* last week. Mr. Perrine would like to see railroads that operate commuter service receive tax relief and, if necessary, a cash subsidy from the state.

Metropolitan mass transportation and suburban railroad service is cur-

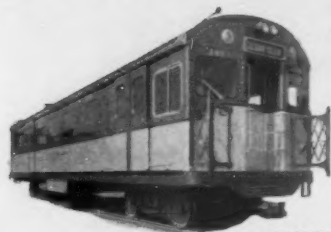
rently a money losing operation, Mr. Perrine says. He believes increased fares can never meet operating deficits, because the added revenue per rider would be offset by a decrease in the number of patrons.

Mr. Perrine suggests railroad suburban fares should be linked to some cost-of-living index and that a cash subsidy be paid to make the difference between revenue and ex-

**"For
69 Years
"St. Louis"
has Been Building
High Quality
Equipment"**



CHICAGO and NORTHWESTERN



CLEVELAND



DETROIT



NEW YORK CENTRAL



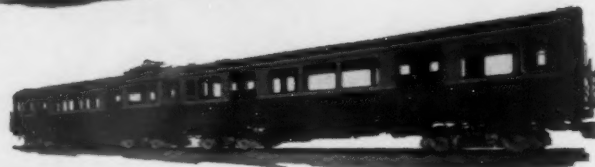
U. S. ARMY AMBULANCE UNIT CAR



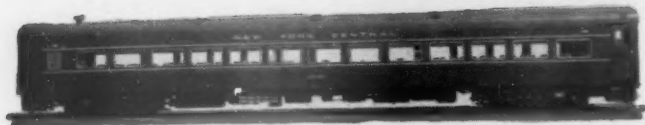
CHICAGO



NEW YORK



BOSTON



NEW YORK CENTRAL

**"St. Louis
Built"**

- SUBWAY-ELEVATED CARS
- RAILROAD PASSENGER & FREIGHT CAR EQUIPMENT
- DIESEL ELECTRIC CARS
- PCC CARS
- TROLLEY COACHES

St. Louis Car Company

St. Louis,
Missouri
U. S. A.

Executive Offices & Plant
St. Louis

New York Office
165 Broadway

San Francisco Office
Menadnock Bldg.

Washington Office
Tower Bldg.

Cleveland Office
606 Williamson Bldg.

Detroit Office
424 Book Building

pense of commuter operations.

"If we had to bring all the passengers into Chicago by automobile that now come by railroad and mass transportation we would have to 'pave the whole town,'" Mr. Perrine declared. "If Chicago, or any other city, is to grow we need relief from traffic congestion. The most economical way to relieve congestion is to provide good railroad commuter service supported by state aid if necessary."

Mr. Perrine recommends that a "super transit authority" be set up to coordinate all transportation in a metropolitan area. This super authority could be supported by real estate taxes, Mr. Perrine said, which, for example, would amount to only \$2 or \$3 a year on a normal Illinois real estate tax bill.

January Accidents

The ICC has made public its Bureau of Transport Economics and Statistics' preliminary summary of railway accidents for January, with comparisons for the same 1955 month. The compilation, which is subject to revision, follows:

Item	Month of January	
	1956	1955
Number of train accidents*	772	659
Number of accidents resulting in casualties	46	41
Number of casualties in train, train-service and nontrain accidents:		
Trespassers:		
Killed	54	44
Injured	46	46
Passengers on trains:		
(a) In train accidents*		
Killed	29	—
Injured	150	46
(b) In train-service accidents:		
Killed	1	1
Injured	151	174
Travelers not on trains:		
Killed	1	2
Injured	88	101
Employees on duty:		
Killed	20	18
Injured	1,520	1,369
All other non-trespassers:**		
Killed	143	169
Injured	579	528
Total—All classes of persons:		
Killed	248	234
Injured	2,534	2,264

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of \$375 or more to railway property. Only a minor part of the total accidents result in casualties to persons, as noted above.

** Casualties to "Other non-trespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and non-trespassers, were as follows:

Persons:		
Killed	145	154
Injured	424	404

D&H Will Sponsor Off-Hours College Study

The Delaware & Hudson will give financial aid to its supervisory em-

ployees who take college courses on their own time at schools along the D&H line.

The plan is in addition to the road's Management Education and Development School conducted Friday evenings and Saturdays in the general office building at Albany with an enrollment of more than 200.

J. P. Hiltz, D&H vice-president,

operation and maintenance, said employees in supervisory, staff and administrative posts may submit to department heads applications for study in any of 10 schools. Courses taken are to be related to an employee's present or contemplated field of work with the road, Mr. Hiltz said, adding that the road's assistance will be in the form of tuition refunds.

Mergers Competitive Boon

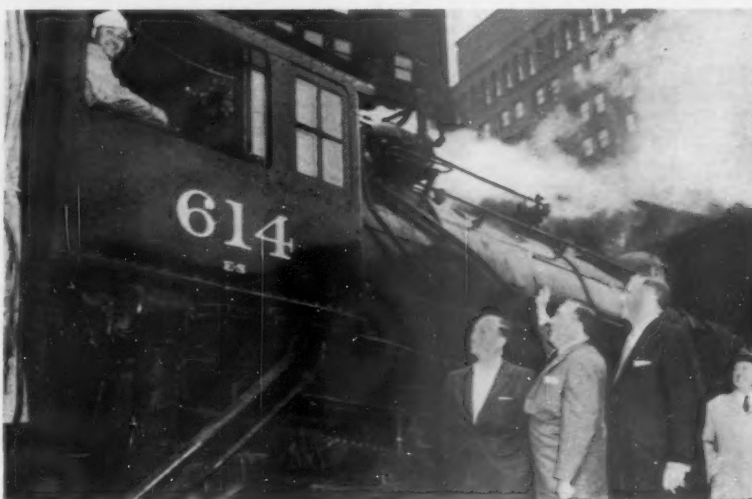
The country cannot afford "the luxury of unsound competition which has been increasing in intensity in recent years," Fred Carpi, vice-president, freight sales and service, Pennsylvania, said in a speech for delivery May 18 at Philadelphia.

Addressed to the 27th annual meeting of the Association of Interstate Commerce Commission Practitioners, Mr. Carpi's remarks dealt primarily with the subject of railroad consolidations.

Noting that the trend to consolidations has declined "sharply" since the 1920-40 era, Mr. Carpi predicted mergers will continue in the future.

He said "competition in our free economy is highly desirable as well as stimulating, but when it is carried to such extreme lengths as to result in much unnecessary waste and duplication of facilities, it is definitely against the public interest."

Railroads know that "external competition" will heighten in coming years and that if they are to meet it "they must improve their efficiency to levels undreamed of in the past," the PRR officer continued. "Closer cooperation will be helpful," he emphasized, "but consolidations will undoubtedly be much more effective."



Chicago & North Western Steam Power on Way Out

Full dieselization of Chicago & North Western road freight, passenger, and suburban service became effective May 10. Witnessing part of the transition are, left to right alongside the firebox, Ben W. Heineman, C&NW chairman; Chicago's Mayor Richard J. Daley; and Clyde J. Fitzpatrick, C&NW president. Retirement of 116 of the road's 147 steam locomotives was achieved in 30

days by a sharp reduction in the number of diesels awaiting repairs and more efficient assignments. No new power was acquired, Mr. Fitzpatrick said. Remaining steam locomotives are relegated to a few yard operations and switching runs on the road's Northern divisions, and are scheduled for replacement in a matter of weeks, the C&NW announced.

Financial

Chicago, Milwaukee, St. Paul & Pacific.—Dividend Plans.—Leo T. Crowley, Milwaukee chairman, announced at the recent annual stockholders' meeting that a plan for payment of quarterly dividends will be submitted to the board of directors. If the road's 1956 net income comes up to expectations, it is proposed that in February 1957 a dividend will be declared on the preferred shares, payable in four equal installments.

Immediately after declaration of the dividend, the road would set aside in a special fund the sum required to cover the four payments. If the plan is adopted, directors would be in a position to place the common stock dividend on a quarterly basis.

Applications

CHESAPEAKE & OHIO.—To assume liability for \$4,800,000 of equipment trust certificates, the first installment of a proposed \$12,900,000 issue, the whole of which would finance in part the acquisition of 60 1,750-hp road switching units from the Electro-Motive Division, General Motors Corporation, and 486 box cars with DF loaders from the Pullman-Standard Car Manufacturing Company. Estimated unit cost of \$4 of the locomotive units is about \$182,800, while the other six are expected to cost about \$195,000 each. Estimated unit cost of the box cars is \$10,695. The certificates would be sold by competitive bids which would fix the interest rate.

CHICAGO & NORTH WESTERN.—To assume liability for \$3,105,000 of equipment trust certificates to finance in part the acquisition of six 1,600-hp diesel-electric road switching locomotive units from Fairbanks, Morse & Co., at an estimated cost of \$193,619 each; 16 gallery-type suburban passenger cars, at an estimated \$147,430 each, from Pullman-Standard Car Manufacturing Company; and 25 cabooses, at an estimated \$14,478 each, from the International Railway Car Company. Estimated total cost of the equipment is \$3,884,562. The certificates would mature in 15 annual installments of \$207,000 each, beginning June 15, 1957. They would be sold by competitive bids, which would fix the interest rate.

MISSOURI PACIFIC.—To assume liability for \$2,625,000 of equipment trust certificates to finance in part the construction in its own shops of 450 box cars, including 150 50½-ft cars at an estimated unit cost of \$8,174, and 150 40½-ft cars at \$6,954. The certificates would mature in 15 annual installments of \$175,000 each, beginning June 1, 1957. They would be sold by competitive bids which would fix the interest rate.

WESTERN MARYLAND.—To assume liability for \$3,285,000 of 3½% equipment trust certificates to finance in part equipment expected to cost \$4,144,521.

Description and Builder	Estimated Unit Cost
300 hopper cars (Bethlehem Steel Company)	\$ 8,953
75 flat cars (Greenville Steel Car Company)	8,405
49 covered hopper cars (Greenville)	8,590
4 dump cars (Baldwin-Lima-Hamilton Corporation)	12,899
2 1,750-hp diesel-electric road switching (Electro-Motive Division, General Motors Corporation) ..	180,097

The certificates have been sold to Halsey, Stuart & Co., subject to commission approval, for \$9,559, the best bid received. They will mature in 15 annual installments of \$219,000 each, beginning January 1, 1957.

Dividends Declared

ALBANY & VERMONT.—\$1.25, paid May 15 to holders of record May 1.

BESSEMER & LAKE ERIE.—\$3 preferred, \$1.50 semiannual, payable June 1 to holders of record May 15.

DELAWARE & BOUND BROOK.—50¢, quarterly, paid May 20 to holders of record May 12.

MINNEAPOLIS & ST. LOUIS.—35¢, quarterly, payable June 11 to holders of record May 25.

NORFOLK SOUTHERN.—30¢, semiannual, payable June 15 to holders of record June 1.

NORTH PENNSYLVANIA.—\$1, quarterly, payable May 25 to holders of record May 18.

PITTSBURGH & WEST VIRGINIA.—50¢, quarterly, payable June 15 to holders of record May 18.

ROCK ISLAND.—common, 67½¢, quarterly, payable June 30 to holders of record June 13.

TENNESSEE, ALABAMA & GEORGIA.—25¢, payable June 15 to holders of record May 28.

VIRGINIAN.—75¢, quarterly, payable June 15 to holders of record June 1.

Organizations

Accounting Division, Association.—The 62nd annual meeting will be held in the Hotel Statler, Los Angeles, May 28-31. Highlights of the program follow:

MONDAY, MAY 28
10 a.m.

Meetings of principal standing committees.

TUESDAY, MAY 29
10 a.m.

Opening remarks by Chairman P. D. Jonas, controller, Lackawanna.

Address by F. G. Gurley, president, Santa Fe. Short talks by representatives of certain companies exhibiting at meeting.

Report of General Committee. Address by P. J. Kendall, vice-president and general auditor, Southern Pacific.

Report of Committee on Statistics.

WEDNESDAY, MAY 30
9:30 a.m.

Address by P. M. Shoemaker, president, Lackawanna.

Reports of Committees on: Freight Accounts; Passenger Accounts; Disbursement Accounts; Terminal Companies' Accounts; Motor Bus, Truck and Air Transportation Accounts; Water Line Accounts; and Refrigerator Carline Accounting. Report of Special Committee for Contact with National Association of Railroad and Utilities Commissioners.

THURSDAY, MAY 31
9:30 a.m.

Unfinished business.

Chairman's address.

Election of officers.

Address by A. R. Seder, vice-president, Association of American Railroads.

Business meeting.

Resolutions.

American Association of Railroad Superintendents.—The 60th annual meeting will be held in Chicago, June 5-7. Speakers will include W. A. Grotz, president, Western Maryland; C. H. Sauls, operating vice-president, Seaboard Air Line; and H. E. Gilbert, president, Brotherhood of Locomotive Firemen & Enginemen.

A special panel session will explore the problem of how to select and develop supervisors. Moderator will be Y. R. Holman, WM director of personnel. On the afternoon of June 6 a special inspection tour will be made over nearby facilities of the Rock Island and the Elgin, Joliet & Eastern.

Reports will be presented during the three-day meeting on these subjects: Superintendents' Responsibility for Improved Utilization of Railroad Properties; Establishing Standards for Measuring Yard and Terminal Efficiency; New Methods of Train Handling; Superintendents' Responsibility for Improved Maintenance of Way Department Efficiency; Superintendents'

Place in Employee-Management Communications; and Setting Up a Division Safety Program.

National Defense Transportation Association.—Annual convention will be held in Salt Lake City, October 15-17, at Hotels Utah and Newhouse. Among the speakers will be William T. Faricy, president, Association of American Railroads, and E. G. Plowman, vice-president, U. S. Steel Corporation.

National Model Railroad Association.—The 21st annual convention is scheduled for August 17-19, in the Hotel St. Paul, St. Paul, Minn.

Pacific Coast Shippers Advisory Board.—George E. Vawter, traffic manager of the Sun-Maid Raisin Growers of California, has been elected general chairman.

Pacific Northwest Advisory Board.—New officers are: President, Nelson M. Hicock, traffic manager, Western Paper Converting Company; vice-president, Chester D. Roberts, traffic manager, Hooker Electrochemical Company; executive secretary, R. G. Searce, traffic manager, Apple Growers Association.

Pan American Railway Congress Association.—Anthony F. Arpaia, chairman of the Interstate Commerce Commission, has been named by President Eisenhower to be a member of the United States National Commission of the association.

Philadelphia Passenger Association.—Newly elected officers are: President, Edward H. Hatfield, Santa Fe; vice-presidents, E. Paul Schilling, Milwaukee, and Charles M. Hutchinson, Southern Pacific; secretary, Frank M. Lauer, Pennsylvania; treasurer, J. W. Wilkins, Pullman Company.

South Bend Transportation Club, Inc.—New officers are: President, G. D. Land, Transamerican Freight Lines; first vice-president, W. H. Harmon, New Jersey, Indiana & Illinois RR; second vice-president, B. B. Martin, Bendix Products Division, Bendix Aviation Corporation; third vice-president, Richard F. Oberle, Clemens Truck Lines; secretary-treasurer, J. B. Gallagher, Indiana Northern Ry.

Traffic Club of Chicago.—Newly elected officers are: President, Paul J. Bond, general traffic manager, Pure Oil Company; first vice-president C. H. Groninger, freight traffic manager Baltimore & Ohio; second vice-president, Walter N. Saaby, director of traffic, Victor Chemical Works; third vice-president, Carl M. Goutwick, general freight agent, Northern Pacific; secretary, Eugene Landis, general traffic manager, International Minerals & Chemical Corp.; treasurer, R. P. DeGroote, general western freight agent, Luckenbach Steamship Company.

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Abandonments

Authorizations

ATCHISON, TOPEKA & SANTA FE.—To abandon a 3.9-mi segment between Highland Junction, Cal., and Del Rosa Station.

BALTIMORE & OHIO.—To abandon its 22-mile Sagamore branch from a point near Sagamore, Pa., to Juneau; and to abandon 23 miles of its Buffalo & Susquehanna subdivision from Medix Run, Pa., to Sinnemahoning.

CHICAGO, BURLINGTON & QUINCY.—To abandon a 15-mi segment from Hannibal, Mo., to Palmyra.

EAST BROAD TOP.—To abandon its entire line and operation; the line, 32.4 mi, runs from Mount Union, Pa., to Alvar.

GREAT NORTHERN.—To abandon, jointly with the Chicago, St. Paul, Minneapolis & Omaha, 0.2 mi of interchange track at Manley, Minn.

MISSOURI PACIFIC.—To abandon its 21.6-mile Farmerville branch between Litroe, La., and Farmerville.

NEW YORK CENTRAL.—To abandon an 8.5-mi line from East Pembroke, N.Y., to Brixment, and a 0.9-mi segment from Getzville to Tonawanda Junction.

NEW YORK, NEW HAVEN & HARTFORD.—To abandon a 0.6-mi segment near the West Quincy, Mass., station.

NORTHERN PACIFIC.—To abandon a 33.6-mile alternate line between Bozeman, Mont., and Logan.

OKLAHOMA CITY-ADA-ATOKA.—To abandon a 14-mile segment from Tupelo, Okla., to a junction with the Missouri-Kansas-Texas at Coalgate, and to abandon operation over the M-K-T from Coalgate to Atoka; the M-K-T was simultaneously authorized to abandon the 13-mile Coalgate-Atoka line.

PENNSYLVANIA.—To abandon eight miles of its Baltimore & Eastern subsidiary from Berlin, Md., to Willards; and to abandon a 2.3-mile line between Mountain Grove, Pa., and Scotch Valley.

SOUTHERN PACIFIC.—To abandon its 10.2-mile Chowchilla branch extending from its main line connection at Chowchilla, Cal., to Dairyland.

UNION PACIFIC.—To abandon, simultaneous with abandonment of the line itself, operation of the Los Angeles & Salt Lake's 2.5-mile Glendale branch in Glendale, Cal.

railway products department, which has been further augmented by appointment of **Dennis C. Kennedy** as sales representative. **Joseph W. Bonin**, of the Fair Lawn, N. J., branch, has succeeded Mr. Vollan at Cleveland.

J. Allan Campbell has been appointed Pacific district manager. **Westinghouse Air Brake Company**, Air Brake Division, at San Francisco, succeeding **J. B. Hull**, retired. **E. A. Hall**, service engineer, has succeeded Mr. Campbell as district representative at San Francisco. **J. G. Rees**, assistant manager, order service section, at Wilmerding, Pa., has been made manager. **W. F. Huggins** has been appointed manager of overseas operations in addition to being president of **Westinghouse Air Brake Trade Corporation** and vice-president of **Westinghouse Air Brake International Company**.

Grip Nut Company has moved its Chicago sales offices to new and larger quarters in the main plant at South Whitley, Ind.

William L. Parcell, sales manager, **Ridge Tool Company**, has been named vice-president and director of sales.

Shelly G. Hughes has been elected president of **Differential Steel Car Company**, succeeding **H. Fort Flowers**, now chairman of the board. **H. H. Houck** has been elected senior vice-president and **F. F. Flowers**, vice-president, sales, steel mill and railway department.

Ross Hershey, sales engineer of **Timken Roller Bearing Company's** steel and tube division, at Detroit, has been promoted to Buffalo district sales manager, replacing **Sherman R. Lyle**, transferred to Cleveland as district manager. He, in turn, has succeeded **R. P. Donnell**, who has been transferred to New York.

As part of an overall expansion program, **Sellers Injector Corporation** has acquired the complete line of injectors formerly manufactured by **Ohio Injector Company**.

General Electric Company has announced a \$6,800,000 expansion of its gas turbine department facilities at Schenectady, N. Y., to provide a more efficient, integrated operation and to meet future growth predicted for the gas turbine business.

Robert N. Janeway has resigned as assistant chief engineer of **Chrysler Corporation** to form **Janeway Engineering Company**, Machinery Building, Detroit. Mr. Janeway organized and was head of dynamics research for Chrysler, through which fundamental suspension principles were extended and applied to railroad rolling stock.

Concurrent with expansion of its line of railroad equipment and machinery, **Athey Products Corporation** has appointed **John S. Miller** railroad representative, at Chicago.

Hertz Corporation has completed negotiations to acquire **Carey Driv-Ur-Self, Inc.**, through exchange of stock. The Carey company operates in the New York metropolitan area and is said to be one of the largest independent rental companies in the United States.

James H. Sutherland, district manager, **SKF Industries, Inc.**, at Chicago, has been appointed midwestern regional sales manager, succeeding **Philip A. Carlson**, retired. **M. William Passmore**, field engineer at Chicago, has been named to succeed Mr. Sutherland.

William H. Fehrs, vice-president of **Union Asbestos & Rubber Company**, has been named manager of sales for the Hand Brake Division and asbestos products to railroads. (Continued on page 134)

Supply Trade

Robert M. Vollan, sales engineer, **Fairbanks, Morse & Co.**, has been transferred to the Chicago office of the



H. C. KENDALL (left), in charge of electronic research for General Railway Signal Company, has been ap-



pointed director of research. **N. C. L. Brown** (center), mechanical engineer, has been named consultant, yards



and terminals, and **A. V. Dasburg** (right) has been appointed manager, yard and terminal development.

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(Indiana)



REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1956

Name of Road	Average mileage operated during period	Operating Revenues		Total Revenues		Operating Expenses		Net from operations	Railway operating income	Net railway operating income
		1956	1955	1956	1955	1956	1955			
Akron, Canton & Youngstown.....	March	5534	5491	5534	5491	4857	4857	677	677	556
Atchafalaya & Santa Fe.....	March	82,783	82,783	82,783	82,783	1,189	1,189	804	804	149
Atchafalaya & Santa Fe.....	3 mos.	242,025	242,025	242,025	242,025	3,603	3,603	2,352	2,352	7,755
Atlanta & St. Andrews Bay.....	March	118,748	118,748	118,748	118,748	27	27	94	94	76
Atlanta & St. Andrews Bay.....	3 mos.	378	378	378	378	81	81	253	253	214
Atlanta & West Point.....	March	239	239	239	239	54	54	185	185	11
Atlanta & West Point.....	3 mos.	717	717	717	717	156	156	561	561	49
Western of Alabama.....	March	312	312	312	312	10	10	61	61	35
Western of Alabama.....	3 mos.	904	904	904	904	25	25	186	186	109
Atlantic Coast Line.....	March	12,805	12,805	12,805	12,805	2,377	2,377	1,048	1,048	1,610
Atlantic Coast Line.....	3 mos.	36,912	36,912	36,912	36,912	6,815	6,815	2,225	2,225	3,035
Charleston & Western Carolina.....	March	733	733	733	733	151	151	582	582	21
Charleston & Western Carolina.....	3 mos.	2,131	2,131	2,131	2,131	468	468	1,663	1,663	150
Baltimore & Ohio.....	March	1,405	1,405	1,405	1,405	613	613	792	792	3,326
Baltimore & Ohio.....	3 mos.	4,248	4,248	4,248	4,248	1,858	1,858	2,390	2,390	9,326
Staten Island Rapid Transit.....	March	29	29	29	29	27	27	2	2	-37
Staten Island Rapid Transit.....	3 mos.	596	596	596	596	167	167	429	429	-151
Buget & Arrostook.....	March	1,930	1,930	1,930	1,930	281	281	1,649	1,649	301
Buget & Arrostook.....	3 mos.	5,815	5,815	5,815	5,815	819	819	5,000	5,000	630
Bessemer & Lake Erie.....	March	1,574	1,574	1,574	1,574	253	253	1,321	1,321	289
Bessemer & Lake Erie.....	3 mos.	4,722	4,722	4,722	4,722	758	758	3,964	3,964	512
Boston & Maine.....	March	1,574	1,574	1,574	1,574	1,312	1,312	262	262	487
Boston & Maine.....	3 mos.	4,722	4,722	4,722	4,722	3,964	3,964	758	758	1,361
Canadian Pacific Lines in Maine.....	March	234	234	234	234	103	103	131	131	283
Canadian Pacific Lines in Maine.....	3 mos.	702	702	702	702	318	318	384	384	862
Carolina & Northwestern.....	March	284	284	284	284	173	173	111	111	161
Carolina & Northwestern.....	3 mos.	852	852	852	852	510	510	342	342	483
Central of Georgia.....	March	1,764	1,764	1,764	1,764	1,687	1,687	77	77	1,886
Central of Georgia.....	3 mos.	5,292	5,292	5,292	5,292	4,941	4,941	351	351	1,594
Central of New Jersey.....	March	612	612	612	612	435	435	177	177	337
Central of New Jersey.....	3 mos.	1,836	1,836	1,836	1,836	1,305	1,305	531	531	1,011
Central Vermont.....	March	397	397	397	397	318	318	79	79	171
Central Vermont.....	3 mos.	1,191	1,191	1,191	1,191	954	954	237	237	522
Chesapeake & Ohio.....	March	5,132	5,132	5,132	5,132	4,983	4,983	149	149	1,149
Chesapeake & Ohio.....	3 mos.	15,396	15,396	15,396	15,396	14,958	14,958	438	438	1,594
Chicago & Eastern Illinois.....	March	868	868	868	868	465	465	403	403	300
Chicago & Eastern Illinois.....	3 mos.	2,599	2,599	2,599	2,599	1,388	1,388	1,211	1,211	912
Chicago & Illinois Midland.....	March	1,300	1,300	1,300	1,300	1,023	1,023	277	277	268
Chicago & Illinois Midland.....	3 mos.	3,900	3,900	3,900	3,900	3,069	3,069	831	831	1,031
Chicago & North Western.....	March	7,836	7,836	7,836	7,836	6,881	6,881	955	955	1,955
Chicago & North Western.....	3 mos.	23,508	23,508	23,508	23,508	20,445	20,445	3,063	3,063	6,063
Chicago, Burlington & Quincy.....	March	8,806	8,806	8,806	8,806	7,342	7,342	1,464	1,464	1,464
Chicago, Burlington & Quincy.....	3 mos.	26,418	26,418	26,418	26,418	22,039	22,039	4,379	4,379	4,379
Chicago Great Western.....	March	1,470	1,470	1,470	1,470	1,173	1,173	297	297	297
Chicago Great Western.....	3 mos.	4,410	4,410	4,410	4,410	3,519	3,519	891	891	891
Chicago, Mil., St. Paul & Pacific.....	March	10,641	10,641	10,641	10,641	9,439	9,439	1,202	1,202	1,202
Chicago, Mil., St. Paul & Pacific.....	3 mos.	31,923	31,923	31,923	31,923	28,316	28,316	3,607	3,607	3,607
Chicago, Rock Island & Pacific.....	March	7,597	7,597	7,597	7,597	6,228	6,228	1,369	1,369	1,369
Chicago, Rock Island & Pacific.....	3 mos.	22,791	22,791	22,791	22,791	18,684	18,684	4,107	4,107	4,107
Chic., St. Paul, Minn. & Omaha.....	March	1,616	1,616	1,616	1,616	1,380	1,380	236	236	236
Chic., St. Paul, Minn. & Omaha.....	3 mos.	4,848	4,848	4,848	4,848	4,140	4,140	708	708	708
Clinchfield Railroad.....	March	295	295	295	295	242	242	53	53	53
Clinchfield Railroad.....	3 mos.	885	885	885	885	726	726	159	159	159
Colorado & Southern.....	March	718	718	718	718	522	522	196	196	196
Colorado & Southern.....	3 mos.	2,154	2,154	2,154	2,154	1,566	1,566	588	588	588
Ft. Worth & Denver.....	March	1,362	1,362	1,362	1,362	1,134	1,134	228	228	228
Ft. Worth & Denver.....	3 mos.	4,086	4,086	4,086	4,086	3,402	3,402	684	684	684

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REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted.)

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1956

Name of Road	Average mileage operated during period	Operating Revenues			Main, Way and Structures			Operating Expenses and Deprec.			Total	Operating ratio 1956	Net from railway operation	Railway Net, railway tax operating income accruals 1956	1955
		Freight	Pass.	Total (inc. misc.)	Total 1955	Total 1956	Retire-ments	Total 1955	Total 1956	Trans-portion					
Colorado & Wyoming	March 40	211	337	548	274	29	32	47	32	141	178	68.9	105	62	41
Delaware & Hudson	3 mos. 792	4,500	158	4,658	828	4	108	100	100	33	233	68.9	396	225	167
Delaware, Lackawanna & Western	March 792	13,187	479	13,666	12,504	1,524	152	2,997	2,764	174	3,338	60.7	396	724	125
Denver & Rio Grande Western	March 2,155	6,262	208	6,470	17,947	1,813	157	290	286	33	3,220	67.4	396	2,406	1,923
Detroit & Toledo	March 50	2,280	...	2,280	781	82	79	66	66	21	1,910	60.2	2,663	1,312	1,408
Detroit, Toledo & Ironton	March 461	5,483	...	5,483	4,842	243	243	190	190	63	1,274	53.3	374	144	95
Duluth, Missabe & Iron Range	March 569	1,561	...	1,561	484	524	336	159	801	557	1,268	57.4	1,936	312	318
Duluth, South Shore & Atlantic	March 570	1,191	...	1,191	1,369	1,147	123	108	136	381	2,167	39.3	1,546	119	1,148
Duluth, Winnipeg & Pacific	March 550	1,905	...	1,905	1,992	1,678	351	336	31	381	3,950	89.9	337	1,891	3,632
Elgin, Joliet & Eastern	March 236	4,302	...	4,302	11,905	11,536	768	638	82	255	3,225	56.4	1,914	843	534
Erie	March 2,225	13,685	558	14,243	15,281	13,366	1,406	1,200	223	2,000	10,049	73.3	4,791	1,072	1,665
Florida East Coast	March 571	3,095	...	3,095	4,276	4,021	550	526	57	720	2,591	77.6	3,451	3,708	1,414
Georgia Railroad	March 321	653	16	669	759	471	126	86	138	297	8,082	68.4	3,194	380	3,410
Georgia & Florida	March 332	306	...	306	310	291	93	78	3	38	644	84.9	115	810	1,473
Grand Trunk Western	March 951	5,017	224	5,241	5,673	5,521	640	583	55	1,027	13,420	80.4	177	364	167
Great Northern	March 8,285	16,496	696	17,192	18,326	18,643	3,633	3,321	392	4,238	14,744	70.1	1,936	2,199	1,841
Green Bay & Western	March 224	370	...	370	378	438	72	52	4	41	42,135	85.9	7,848	1,672	1,466
Gulf, Mobile & Ohio	March 2,757	6,272	283	6,555	11,116	1,131	194	146	13	28	5,599	53.5	110	45	36
Illinois Central	March 6,531	21,365	1,671	23,036	20,556	20,157	2,990	3,017	237	3,801	15,368	72.4	1,829	795	690
Illinois Terminal	March 355	2,629	101	2,730	3,044	967	127	125	2	127	17,772	72.6	741	2,199	2,312
Kansas City Southern	March 891	3,663	86	3,749	4,100	3,771	361	343	45	490	4,590	82.6	610	236	228
Kansas, Oklahoma & Gulf	March 327	495	...	495	497	466	76	62	12	30	267	53.8	54.0	230	99
Lake Superior & Ishpeming	March 149	67	...	67	172	152	41	41	21	75	773	56.4	58.8	215	266
Lehigh & Hudson River	March 96	273	...	273	282	282	33	35	2	38	185	32.4	113	31	133
Lehigh & New England	March 178	588	...	588	592	611	73	65	6	181	501	66.9	208	79	32
Lehigh Valley	March 1,150	5,344	791	6,135	5,952	5,768	788	663	90	1,029	1,558	93.1	116	36	150
Litchfield & Madison	March 44	325	...	325	333	301	12	11	1	25	493	83.2	167	1,003	351
Long Island	March 351	1,184	3,855	5,039	4,870	4,700	997	680	131	1,107	4,366	89.6	60	345	413
Louisiana & Arkansas	March 753	2,199	54	2,253	11,120	14,120	2,440	1,890	393	2,940	14,503	96.0	600	1,021	1,149
	3 mos. 753	6,478	160	6,638	6,933	6,696	650	651	61	863	3,998	54.2	2,935	1,234	1,373



A Du Pont chemist goes aboard the diesel for a run
... cooperating with a railroad in solving a problem.

a diesel locomotive... a technical representative...and a team

The man boarding the diesel is a Du Pont technical representative... a chemist by training and experience. His services are available to help railroads solve fuel oil problems, and in this respect he's typical of others in Du Pont's Petroleum Chemicals Division.

These technical representatives are experienced in trouble-shooting. Many times they have licked problems involving fuel for locomotive diesels. Two Du Pont products have proved of especial value in fuel improvement:

Fuel Oil Additive No. 2 is an inhibitor and dispersant with rust-preventive properties. It is an indirect result of Du Pont's discovery of nylon, when the first synthesis of this type of long-

chain polymers opened up a whole new world of chemistry. Since then, the additive has been the subject of countless experiments in Du Pont laboratories across the country. Today the use of FOA-2 in diesel fuels is widespread.

DMD—Du Pont Metal Deactivator— is another product of demonstrated importance. It greatly improves the stability, in storage, of fuels either containing dissolved copper, or coming into contact with bronze filters, or lines and other equipment made of copper. DMD is particularly useful as an adjunct to FOA-2.

A Petroleum Chemicals Division representative will gladly assist rail-

roads with fuel oil problems... a man backed by many specialists... engineers, diesel engine experts, research chemists, technical advisors and others. These men, in turn, are backed by Du Pont laboratories where facilities are available for the solution of *your* problems.

You have only to tell us *where* and *when*... we'll try to help you find out *how*!



Better Things for Better Living
... through Chemistry

Petroleum Chemicals

E. I. DU PONT DE NEMOURS & CO. (INC.) • Petroleum Chemicals Division • Wilmington 98, Delaware

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1956

Name of Road	Average mileage operated during period	Operating Revenues				Operating Expenses				Total Retire-ments	Total Deprec.	Total and Deprec.	Trans- portation	Total 1956	Total 1955	Operating ratio 1956-1955	Net from railway operation	Railway tax accruals 1956	Net railway operating income 1956
		Total (inc. misc.)				Maint. Way and Structures													
		1956	1955	1954	1953	1956	1955	1954	1953										
Louisville & Nashville	March	15,271	14,811	14,811	14,811	3,355	3,395	17	13	2	35	36	92	195	182	55.0	160	75	63
March	3 mos.	47,322	45,984	45,984	45,984	10,057	10,055	45	41	6	101	87	271	648	610	77.8	514	250	217
March	3 mos.	143,526	143,526	143,526	143,526	30,171	30,165	135	123	18	302	264	813	1,944	1,839	77.8	1,514	750	664
Maine Central	March	2,533	2,533	2,533	2,533	485	498	18	15	1	79	72	30	110	107	81.4	107	107	113
March	3 mos.	7,599	7,599	7,599	7,599	1,455	1,494	54	46	3	237	216	93	323	313	77.1	323	313	350
Minneapolis & St. Louis	March	1,695	1,695	1,695	1,695	1,757	1,660	208	275	79	842	819	227	303	273	74.8	807	442	334
March	3 mos.	5,085	5,085	5,085	5,085	5,271	5,022	624	825	237	2,526	2,457	681	909	846	81.4	925	562	340
Minneapolis, Northfield & Southern	March	330	330	330	330	355	395	17	13	2	35	36	10	25	195	182	55.0	160	75
March	3 mos.	980	980	980	980	1,057	1,055	45	41	6	101	87	31	71	64	77.8	514	250	217
Min., St. Paul & S. Ste. Marie	March	3,417	3,417	3,417	3,417	3,628	3,702	760	538	41	1,016	940	131	165	150	77.8	1,016	788	628
March	3 mos.	10,251	10,251	10,251	10,251	10,884	11,106	2,280	1,614	123	3,048	2,811	393	495	450	77.8	3,048	2,366	682
Missouri-Illinois	March	1,482	1,482	1,482	1,482	1,485	1,498	18	15	1	79	72	30	110	107	81.4	107	107	113
March	3 mos.	4,446	4,446	4,446	4,446	4,455	4,494	54	46	3	237	216	93	323	313	77.1	323	313	350
Missouri-Kansas-Texas Lines	March	5,724	5,724	5,724	5,724	6,301	6,370	908	865	105	995	912	257	278	243	76.6	731	1,520	448
March	3 mos.	17,172	17,172	17,172	17,172	18,903	19,110	2,724	2,595	315	2,910	2,585	771	827	769	76.6	2,910	3,938	1,339
Missouri Pacific	March	22,642	22,642	22,642	22,642	25,919	25,418	6,992	4,266	402	3,591	4,675	768	827	769	76.6	3,591	3,078	1,451
March	3 mos.	68,926	68,926	68,926	68,926	77,757	76,254	20,976	12,800	1,204	10,772	13,533	2,304	7,442	6,945	76.1	10,772	9,384	1,584
International Great Northern	March	64,936	64,936	64,936	64,936	71,521	70,431	17,710	10,914	1,661	13,267	13,333	3,065	1,958	2,617	76.1	13,267	11,736	6,114
March	3 mos.	194,808	194,808	194,808	194,808	214,563	211,293	53,130	32,734	5,002	39,801	39,999	9,183	5,874	8,051	76.1	39,801	33,600	18,780
Gulf Coast Lines	March	1,776	1,776	1,776	1,776	1,994	1,863	335	275	19	292	270	73	103	703	78.4	292	431	140
March	3 mos.	5,328	5,328	5,328	5,328	6,182	5,589	995	825	57	882	810	211	303	2,106	78.4	882	1,290	485
Monongahela	March	1,552	1,552	1,552	1,552	1,559	1,405	197	184	54	165	166	35	1	191	61.9	165	594	227
March	3 mos.	4,656	4,656	4,656	4,656	4,737	4,215	591	552	162	495	498	105	574	573	65.0	495	295	52
Nashville, Chatt. & St. Louis	March	2,828	2,828	2,828	2,828	3,302	3,302	531	268	48	423	353	139	123	1,236	74.0	423	485	378
March	3 mos.	8,484	8,484	8,484	8,484	9,906	9,906	1,593	804	144	1,269	1,059	416	374	3,709	74.0	1,269	1,478	1,127
New York Central	March	51,475	51,475	51,475	51,475	67,526	63,577	7,013	7,001	1,137	11,131	10,691	2,241	1,226	13,027	79.1	11,131	13,595	5,698
March	3 mos.	154,425	154,425	154,425	154,425	202,578	190,731	21,039	21,003	3,411	33,392	32,073	6,709	3,631	39,680	79.1	33,392	38,283	17,655
Pittsburgh & Lake Erie	March	1,485	1,485	1,485	1,485	1,559	1,405	197	184	54	165	166	35	1	191	61.9	165	594	227
March	3 mos.	4,455	4,455	4,455	4,455	4,737	4,215	591	552	162	495	498	105	574	573	65.0	495	295	52
New York, Chicago & St. Louis	March	14,852	14,852	14,852	14,852	16,540	15,075	1,648	1,431	150	2,411	2,107	375	352	5,441	66.9	2,411	2,408	2,679
March	3 mos.	44,556	44,556	44,556	44,556	49,620	45,225	4,944	4,293	450	7,233	6,321	1,123	1,048	15,663	66.9	7,233	6,495	5,576
New York, New Haven & Hartford	March	4,148	4,148	4,148	4,148	4,549	4,008	422	408	42	460	416	139	139	1,139	70.9	460	495	434
March	3 mos.	12,444	12,444	12,444	12,444	13,647	12,024	1,266	1,224	126	1,380	1,248	416	422	3,399	70.9	1,380	1,485	1,297
New York Connecting	March	2,142	2,142	2,142	2,142	2,352	2,142	268	239	76	297	273	119	182	1,084	89.1	297	286	250
March	3 mos.	6,426	6,426	6,426	6,426	7,056	6,426	804	717	228	891	819	357	543	3,253	89.1	891	865	780
New York, Ontario & Western	March	475	475	475	475	488	507	109	104	18	94	90	22	27	274	99.3	94	50	42
March	3 mos.	1,425	1,425	1,425	1,425	1,453	1,521	327	302	52	280	268	67	77	808	108.8	280	110	126
New York, Susquehanna & Western	March	1,413	1,413	1,413	1,413	1,474	1,380	165	154	5	60	62	13	9	200	70.0	60	35	38
March	3 mos.	4,239	4,239	4,239	4,239	4,422	4,140	495	462	15	180	174	38	28	600	70.0	180	110	126
Norfolk & Western	March	1,131	1,131	1,131	1,131	1,224	1,131	165	154	5	60	62	13	9	200	69.8	60	35	38
March	3 mos.	3,393	3,393	3,393	3,393	3,672	3,393	495	462	15	180	174	38	28	600	69.8	180	110	126
Norfolk Southern	March	902	902	902	902	916	940	187	187	13	129	139	30	49	280	76.4	129	216	97
March	3 mos.	2,706	2,706	2,706	2,706	2,748	2,820	561	561	39	387	417	89	147	804	76.4	387	526	245
Northern Pacific	March	13,416	13,416	13,416	13,416	14,985	14,681	1,875	1,740	266	3,034	2,775	580	333	6,092	81.4	3,034	2,787	1,531
March	3 mos.	40,248	40,248	40,248	40,248	44,955	44,043	5,625	5,220	798	9,102	8,325	1,740	1,084	18,266	81.4	9,102	8,325	4,598
Northwestern Pacific	March	1,301	1,301	1,301	1,301	1,301	1,301	256	256	12	11	830	1	1	1	73.7	11	545	63
March	3 mos.	3,903	3,903	3,903	3,903	3,903	3,903	768	768	36	33	2,490	3	3	3	73.7	33	187	21
Pennsylvania	March	64,812	64,812	64,812	64,812	72,558	68,823	8,823	7,846	1,420	16,321	15,275	2,719	1,422	36,634	81.1	16,321	15,690	5,617
March	3 mos.	194,436	194,436	194,436	194,436	217,674	206,469	26,469	23,538	4,261	48,972	45,825	8,149	4,261	108,972	81.1	48,972	45,825	16,941
Penn.-Reading Seashore Lines	March	358	358	358	358	358	358	217	217	21	114	114	24	11	499	83.3	114	175	83
March	3 mos.	1,074	1,074	1,074	1,074	1,074	1,074	651	651	63	342	342	72	33	1,497	83.3	342	406	292
Piedmont & Northern	March	1,786	1,786	1,786	1,786	2,091	1,978	612	574	103	352	321	68	31	469	123.6	352	252	1,174
March	3 mos.	5,358	5,358	5,358	5,358	6,273	5,934	1,836	1,722	309	1,056	963	204	93	1,407	123.6	1,056	856	2,946
Pittsburgh & West Virginia	March	1,520	1,520	1,520	1,520	1,549	1,416	131	132	13	93	88	37	73	217	82.4	93	892	296
March	3 mos.	4,560	4,560	4,560	4,560	4,647	4,248	393	396	39	273	261	111	213	630	82.4	273	116	124
Pittsburgh & West Virginia	March	1,32	1,32	1,32	1,32	1,32	1,32	104	103	24	148	135	37	73	217	591	514	723	74.4
March	3 mos.	3,960	3,960	3,960	3,960	4,248	3,960	307	307	78	410	361	110	213	630	75.1	410	567	284
Reading	March	1,306	1,306	1,306	1,306	1,306	1,306	1,081	1,081	196	2,221	1,870	428	182	4,630	79.2	2,221	1,870	1,434
March	3 mos.	3,935	3,935	3,935	3,935	4,248	3,935	1,081	1,081	196	2,221	1,870	428	182	4,630	79.2	2,221	1,870	1,434
March	3 mos.	11,770	11,770	11,770	11,770	12,835	12,835	2,278	2,278	564	6,376	5,340	1,278	554	13,847	75.7	6,376	5,340	3,769

Odd spaces become salable features with CRANE space-tailored plumbing



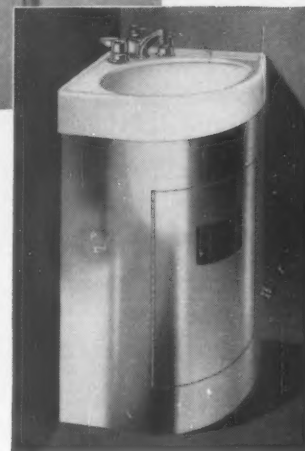
Passenger comfort and convenience, and the problems that limited space imposes on passenger car designers, were two prime considerations in the design of these Crane plumbing fixtures. Now the odd niche, the captive corner, may be utilized to house these revenue-attracting features.

(Above) Crane angle recess lavatories—only 24" x 14" x 10"—may be installed in compact bedrooms. Made of Crane's finest vitreous china—that cleans easily and resists stains. Self-closing valves prevent water waste. Supply and waste fittings and the integral ice water faucet are heavily chrome-plated.

(Right) Crane corner lavatories are widely used in roomettes, but can be used elsewhere. Made of our finest vitreous china. Supply and waste fittings and integral ice water faucet are plated with long-wearing chrome. Valves are self-closing. Size: 15" x 15".

(Right) Crane wall-hung blowout closets. The fine quality of the vitreous china bowl makes cleaning and sanitizing easy. Above the floor bowl permits easier access for floor care. Pedal operates concealed flush valve. Flushes with approximately a gallon of water at 25 pounds pressure. Black, open front seat.

For complete information about Crane's line of special plumbing, valves and fittings for railroads, contact your local Crane Representative or write to address below.



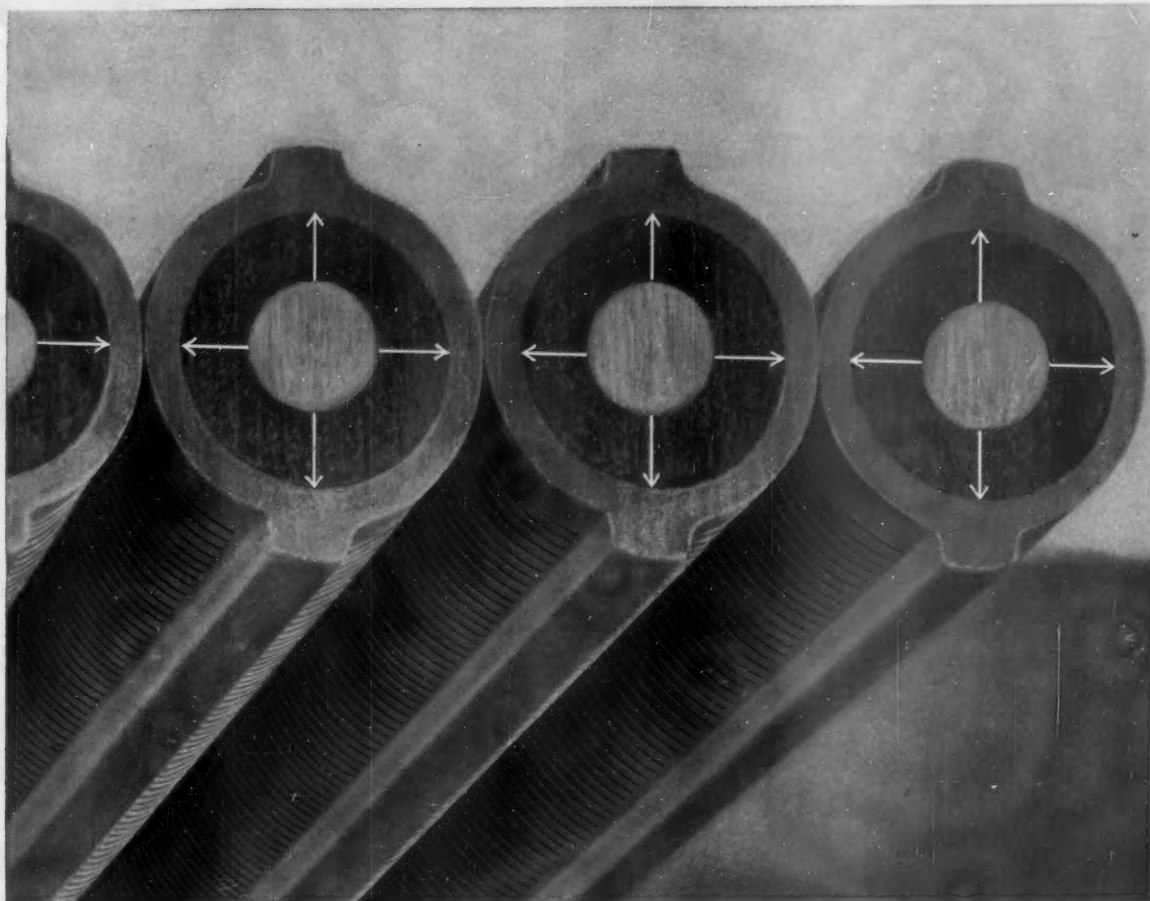
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EXIDE-IRONCLAD BATTERIES

For railway diesel starting



Power tubes expand without shedding — preserve battery life



BATTERY FOR RAILWAY DIESEL STARTING. Exide-Ironclad Model MVD. Write for Bulletin No. 5348.

Every time you discharge a storage battery, the active material on the positive plates expands. But the plate grids don't expand. This is basic.

On most batteries, the expanding active material tends to shear off from the nonexpanding grid every time the action takes place. But this can't happen in the Exide-Ironclad Battery. The reason is simple.

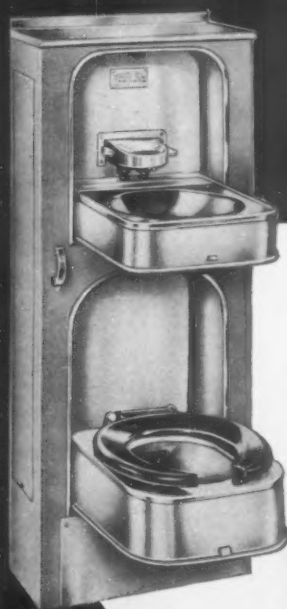
Active material is formed concentrically around the spinelike grid and held inside the plastic tubes. Expansion is predominantly in an outward direction—hence no shearing. Active material remains firmly locked to the underlying grid structure. And the flexible plastic tubes yield and take up as needed.

This extra protection against shedding of active material is only one of the many reasons for the long life of Exide-Ironclad Batteries. When you order heavy duty batteries, or the equipment requiring them, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®

TRAVEL-LAV

Fold-away Toilet and Wash Basin



Model MA-214
Folding toilet
and folding
wash basin. Size:
20½" x 8½" x
48½" ht.



Model B-220
Fermo-Basin
cabinet.
26" x 10½" x
34" ht.

New Rail Toilet Facility Offers Many Advantages

Those responsible for designing new passenger cars and for modernizing old cars will welcome the many advantages TRAVEL-LAV offers. Here is a totally new idea in space conservation and efficiency.

TRAVEL-LAV is so compactly designed it requires only a fraction of the space formerly required. Complete toilet and lavatory facilities are combined in one space-saving unit. A unique fold-away feature permits further flexibility by putting valuable floor space to dual use.

In designing new roomette type passenger cars TRAVEL-LAV can save enough space to provide many extra roomettes or private rooms in each car length.

Precision made of stainless steel and white-bronze machined parts, for long wear, maximum efficiency and sanitation.

Complete Catalog on Request

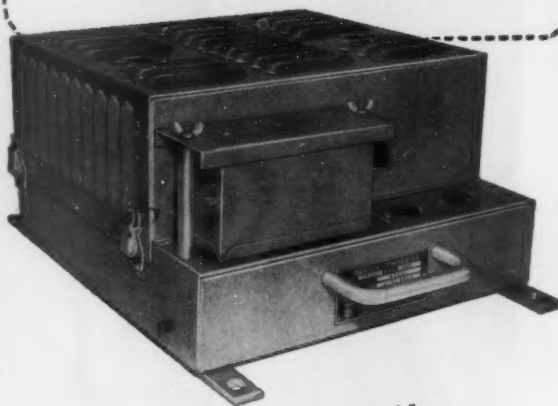
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DESIGNERS & MANUFACTURERS OF STAINLESS STEEL SPECIALTIES

Another C-D first

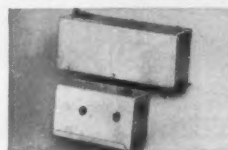


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Yes, it's a new Cornell-Dubilier idea. Install the single vibrator economy Model 3600 converter now and convert to a dual vibrator, automatic switchover unit at any future time. Change over in a few seconds without tools.

Same rugged dependability as the nationally famous "3200 Series C-D RR Converter" but priced for low cost initial (single vibrator) installation. 50% longer vibrator life expectancy.

Write for Bulletin EB-3600, Cornell-Dubilier Electric Corp., Indianapolis, Indiana. Affiliated Member A.A.R.



CONVERSION KIT

Consists of Standby Vibrator and automatic Switch. Can be purchased whenever you're ready for dual vibrator service.



INSTANT ACCESSIBILITY

Trunk hasps afford quick access for conversion. Either RACK or BULKHEAD mounting, as ordered.



PLUG-IN CONVERSION

Field changeover like a vacuum tube. Kit can be plugged-in in minutes without tools.



COMPLETE UNIT

Available initially for dual vibrator operation factory equipped with automatic changeover feature.



CONSISTENTLY ^{DEPENDABLE}
CORNELL-DUBILIER

VIBRATOR CONVERTERS

For Industrial—Marine—Railroad and Appliance Services

PLANTS IN SO. PLAINFIELD, N. J.; NEW BEDFORD, WORCESTER & CAMBRIDGE, MASS.; PROVIDENCE & HOPE VALLEY, R. I.; INDIANAPOLIS, IND.; PUQUAT SPRINGS & SANFORD, N. C.; SUBSIDIARY: RADIANT CORP. CLEVELAND, O.



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Dual purpose twin bulb lantern for spotting and signaling. One-piece stainless steel reflector. Both sockets nylon insulated. Simplified positive-acting, waterproof switch. Unbreakable, positive-locking insulated handle. Lantern is lightweight, waterproof, rust-resistant, uses standard bulbs, 6-volt battery.



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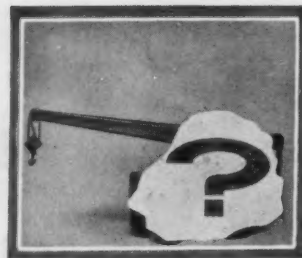
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Bolt available with Loktite Nut No. 2 or std. sq. (shown) and hexagon nuts.



Cross section of head from above, showing fins, bevel and shank.

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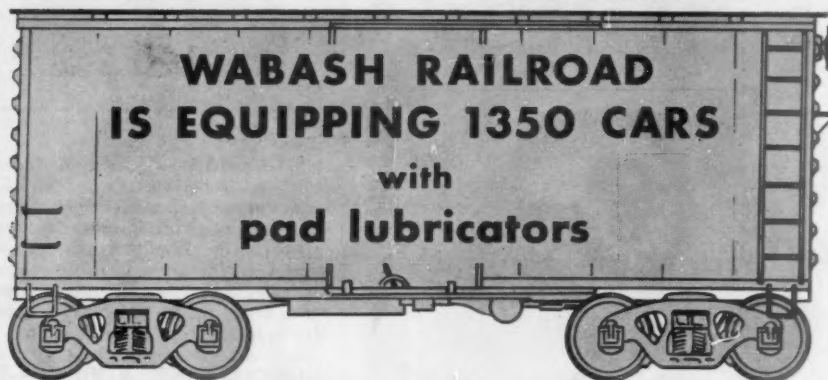
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International ties are known for highest quality selected timber, thorough seasoning, adequate impregnation and careful inspection. Make sure that the ties you install now or in the near future bear this famous brand. International Creosoting and Construction Company, Galveston, Texas.



(Continued from page 120)

John C. Day and **E. E. Kraegel** have been appointed sales agents, Transportation Equipment Division of **American Steel Foundries**, with headquarters at New York and Chicago, respectively.

Stephen S. Conway, president of Brake Shoe & Castings Division, **American Brake Shoe Company**, has been named a vice-president of the parent company.

Aleo Products, Inc., has opened a new warehouse at 6363 Corsair avenue, Los Angeles, for replacement and renewal locomotive and engine parts.

Oakite Products, Inc., has appointed the **Mexican Railway Appliance Company** of Mexico City as its exclusive railway representative in Mexico.

Max R. Brockman, retired assistant vice-president, mechanical, of the Southern, is now representing **Ross & White Co.** to southeastern railways. **Stan H. Haigh**, St. Paul, Minn., has been named representative for railways in the St. Paul and Minneapolis district.

OBITUARY

Donald J. Phillips, 50, sales manager of Austin-Western Works, Construction Equipment Division, Baldwin-Lima-Hamilton Corporation, died April 26 at his home in Aurora.

Albert J. Grother, 52, vice-president and general manager, Iowa-Nebraska division of Armco Drainage & Metal Products, Inc., died April 27 in Fort Wayne, Ind.

Benjamin F. Fitch, 79, inventor of equipment for shipping and handling freight, died May 2 in New York City.



ROBERT G. BEESON, appointed railroad development engineer by Kaiser Aluminum & Chemical Corporation, has been engaged in railroad car design work and was formerly plant engineer for Mather Stock Car Company and North American Car Corporation.

Railway Officers



CANADIAN NATIONAL.—**Norman J. MacMillan** (above), vice-president and general counsel at Montreal, has been appointed executive vice-president, a new post. Mr. MacMillan will have no direct departmental responsibility but will share with the president the responsibilities of day-to-day administration. **H. C. Friel** (below), general solicitor has been appointed general counsel and succeeds Mr. MacMillan as head of the law department.



CANADIAN PACIFIC.—**H. C. Reid**, assistant comptroller at Montreal, appointed assistant vice-president, integrated data processing.

Fred A. Rutherford, general auditor at Montreal, appointed assistant comptroller. **G. Meredith Rountree**, assistant to president, succeeds Mr. Rutherford as general auditor.

CHESAPEAKE & OHIO.—**Dr. Charles E. Lawall**, assistant to president—coal traffic and development at Huntington, W. Va., named vice-president—coal traffic and development.

H. S. Talman, division engineer, Hinton, W. Va. division, appointed general supervisor bridges and buildings, Southern region, at Richmond.

C. A. Nuckols, foreman car department at Clifton Forge, Va., named general car foreman there. **H. E. Blank**, foreman car department,

Stevens, Ky., named general car foreman there.

Clifford F. Forceell appointed division freight agent at Toledo and **W. N. Stratton** named general agent at Ashland, Ky. **J. M. Hamrick, Jr.**, appointed general agent, passenger department, at Norfolk.

B. T. Harter, budget officer at Cleveland, appointed general auditor there, with responsibility for general accounting policy matters in addition to jurisdiction over internal audit activities. **R. W. Hurd** appointed general auditor—traffic accounting at Cleveland. **H. F. Tourte** named chief internal auditor at Cleveland.

J. L. Varley, auditor expenditures at Detroit, appointed assistant general auditor—operations accounting at that point. **O. C. Sherman**, valuation engineer at Richmond, appointed assistant general auditor—property accounts with the same headquarters. **J. T. Ford** appointed auditor of expenditures, Southern region at Huntington. **L. F. Grabowski**, assistant auditor expenditures at Detroit, appointed auditor of expenditures there.

CHICAGO & EASTERN ILLINOIS.—**W. F. Tracy** appointed general agent at Mt. Vernon, Ill., succeeding the late **E. D. Ward**.

J. P. Quinn, acting traffic manager, appointed traffic manager at New York and his former position abolished.

FERROCARRIL DE CHIHUAHUA AL PACIFICO, S. A. (CHIHUAHUA-PACIFIC).—**Walter C. Buchanan**, president, has announced appointment of **Luis Garcia Larranaga** as general manager, succeeding **Jose Murguia**. **Esteban Garza Duran** and **Ernesto A. Gutierrez** have been appointed assistants to general manager.

GREAT NORTHERN.—**J. L. Tierney**, New England passenger agent at Boston, has been appointed district passenger agent at New York, succeeding the late **J. E. O'Connell**. **Howard E. Evans**, city freight agent at Boston, succeeds Mr. Tierney as New England passenger agent.

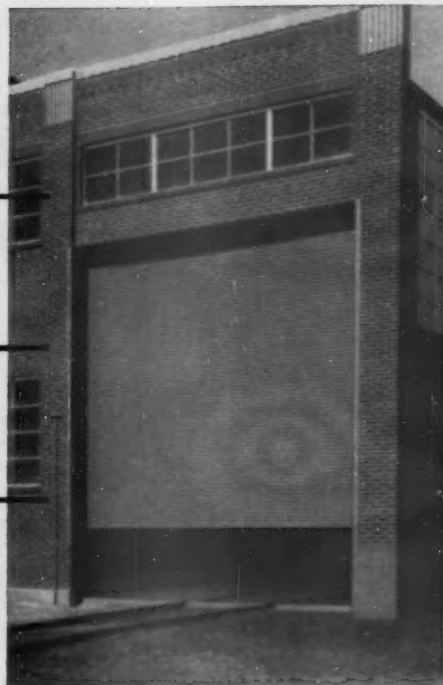
Consolidation of the industrial and agricultural development departments has been announced. **E. N. Duncan**, director agricultural development department, has been named director of the new department. **J. J. Hare** has been appointed assistant to the director at St. Paul. **E. H. Thomas** has been named assistant director, agricultural development, and **R. C. Wentz** has become assistant director, industrial development, both at St. Paul. The following has been appointed industrial and agricultural development agents: **R. V. Backstrom** at Seattle; **L. A. Richardson** at Ephrata, Wash.; **Fred Sanborn** and **C. E. Jarrett** at Great Falls, Mont.; **Paul C. C. Wagner** and **E. M. Gregory** at Fargo, N. D.; **R. E. Nelson** at St. Paul. **W. L. Tilton** and **R. J. Wel-**

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Every door is REGISTERED¹ for your protection

Extra-heavy zinc coating, for lasting weather resistance²



Kinnear Rolling Doors

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Kinnear Rolling Doors are engineered to fit any need, with manual-lift, crank, chain or electrical operation. Controls for motorized doors can be placed at any number of convenient spots. For long, low-cost service, insist on Kinnear Rolling Doors! Write for catalog.

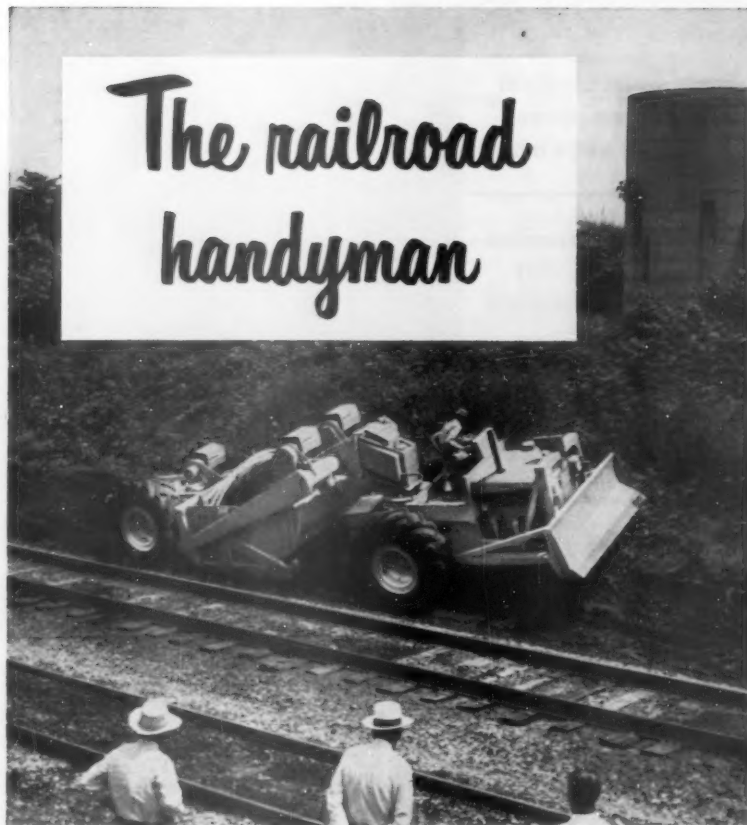
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You can have confidence in the D Tournapull. It has been in production

since 1948. Thousands of these handy dirtmovers are being used by contractors, mines, loggers and industries all over the world. Many are in use today on maintenance and construction projects for railroads in both the USA and abroad. This rubber-tired tractor-scraper is built by LeTourneau-Westinghouse, a wholly-owned subsidiary of Westinghouse Air Brake Company. That name on any type of equipment has been synonymous with quality, safety and satisfactory railroad service for nearly one hundred years. For proof of what D Tournapull can do for you, ask for a demonstration. Send for details today.



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Railroad Sales Division
Peoria, Illinois

A Subsidiary of Westinghouse Air Brake Company

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lein have been appointed industrial development agents at St. Paul and Seattle, respectively.

V. P. Brown, assistant general freight traffic manager (rates and divisions) at St. Paul, appointed general freight traffic manager (rates and divisions) there, succeeding the late **Wallace D. O'Brien**. **O. M. Anderson** and **E. W. Bergstrom** named assistant general freight traffic managers (rates and divisions) at St. Paul. Other appointments follow: **E. F. McGuire**, general freight agent (rates and divisions), Seattle; **J. F. Fallon** and **A. N. Tein**, general



V. P. Brown

freight agents; **R.J. Strecker**, assistant general freight agent; **C. J. Ehrke**, chief of tariff section; **A. A. Ninke**, chief of transcontinental section; **O. A. Brodd**, assistant to general freight traffic manager (rates and divisions); **J. F. Dexter** and **H. H. Kirchoff**, assistants to general freight traffic manager (rates and divisions); **L. L. Moore**, assistant to general freight agent (rates and divisions), Seattle. All headquarters, except where otherwise indicated, at St. Paul.

LOUISVILLE & NASHVILLE

—**Collins W. Kendrick**, district freight agent at Macon, Ga., retired April 30.

MILWAUKEE.—L. H. Rabun,

master mechanic, Milwaukee Terminals, appointed superintendent of shops at Milwaukee, Wis.

R. R. Brown, superintendent of the Milwaukee Road-Kansas City Southern Joint Agency at Kansas City, Mo., appointed superintendent Chicago Terminals at Bensenville, Ill., succeeding the late **G. F. Wilson** (Railway Age, Apr. 30, p. 46). Mr. Brown's successor is **R. H. Love**, assistant division superintendent at Green Bay, Wis., who in turn is replaced by **R. G. Scott**, trainmaster at Marion, Iowa. **W. F. Bannon**, assistant to vice-president—operation at Chicago, replaces Mr. Scott.

Carl F. Dahnke, assistant general passenger agent at Milwaukee,

Wis., appointed general passenger agent there.

MINNEAPOLIS, NORTHFIELD & SOUTHERN.—H. E. Pence, senior vice-president, elected president, to succeed George C. Wright, who retired May 1.

NEW YORK CENTRAL.—Charles Fendrych, who became passenger sales manager at Detroit in February, has been transferred to Cleveland, to succeed Herbert H.



Charles Fendrych



Clarence H. LaFond

Harwood, appointed to new position of executive representative at Boston. **Clarence H. LaFond**, assistant passenger sales manager at Albany, replaces Mr. Fendrych at Detroit.

J. N. Page, trainmaster at Ashtabula, Ohio, appointed assistant superintendent, Buffalo division.

C. L. Hall, supervisor locomotive maintenance, promoted to the newly created position of director—diesel methods and procedures at New York.

NEW YORK, ONTARIO & WESTERN.—J. M. Hurley, assistant traffic manager, appointed traffic manager at New York. **A. A. Stone**, assistant general freight agent at Detroit, succeeds Mr. Hurley as assistant traffic manager at New York. **L. V. Cooper**, general western freight agent at Kansas City, transferred to Los Angeles. **R. M. Toohey**, general



Versatile Tournatractor spreads ballast, "daylights" curves, cleans ditches, backfills around culverts and bridge abutments, levels crossings, grades for sidings.

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Tournatractor speeds dozing, pulling, pushing tasks anywhere. Rubber-tired mobility lets you drive on highways or the right-of-way; handle work on, off or across the tracks. You eliminate work train service, and mainline delays, because operator simply gets on and drives job-to-job at a moment's notice. This speeds service, saves time.

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dirt to be moved, goes on to the next assignment. Your regular maintenance-of-way crew can become competent operators in a short time.

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Sure-footed Tournatractor safely crosses trestles and high bridges. It can travel anywhere a train can go or drive cross-country.



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Railroad Sales Division
Peoria, Illinois

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agent at Pittsburgh, succeeds Mr. Stone as assistant general freight agent at Detroit.

PENNSYLVANIA.—Vance J. Hoover appointed supervisor of car equipment, Buckeye Region at Cincinnati, succeeding J. M. McGuigan, advanced to assistant master mechanic at Pittsburgh.

Frank C. Hill appointed passenger trainmaster, Buckeye Region at Columbus, Ohio, to succeed G. C. Egy.

William N. Price, freight trainmaster, Philadelphia region at Harrisburg, Pa., appointed supervisor of train movement, Buckeye region, at

Cincinnati, succeeding C. R. Frew, transferred to Chicago.

John K. Sherwood, supervisor of car equipment, Northern region at Buffalo, named assistant master mechanic at Pitcairn, succeeding H. L. Wood, appointed master mechanic, Northwestern region at Chicago.

PITTSBURGH & WEST VIRGINIA.—Henry Walling appointed resident general agent at Birmingham, Ala.

RAILWAY EXPRESS AGENCY.—J. R. Anglea, superintendent transportation at Atlanta, Ga., ap-

pointed general superintendent transportation, Southern region, at that point.

SANTA FE.—G. F. Mueller, division freight agent at Houston, Tex., appointed general agent at Milwaukee, to succeed the late R. C. Raybourne. R. P. St. John, traveling freight agent at Fort Madison, Iowa, named general agent at Peoria, Ill., to replace J. O'Donnell, retired.

SOUTHERN.—Richard W. Ellerman, general freight agent, has been promoted to assistant freight traffic manager in charge of divisions, with headquarters remaining at Atlanta, Ga. Mr. Ellerman succeeds the late Clyde E. Flowers. M. Fletcher Dukes, Jr., assistant general freight agent at Atlanta, has been promoted to general freight agent there, succeeding Mr. Ellerman. Joseph C. Dant, commercial agent at St. Louis, has been promoted to division freight and passenger agent at Evansville, Ind.

Robert L. Fox, division engineer at Alexandria, Va., has been promoted to process engineer structures at Washington, D. C.

Walter W. Simpson, Jr., general foreman, Hayne shop, at Spartanburg S. C., has been promoted to manager, Coster shop, at Knoxville, Tenn., succeeding Cecil D. Schwine, Jr., transferred to the shop at Spencer, N. C.

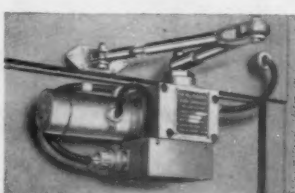
Ray M. Van Hook, assistant to freight traffic manager, appointed commerce counsel, with headquarters remaining at Washington, D. C.

OBITUARY

J. Carter Fort, 67, vice-president and general counsel, Association of American Railroads at Washington, D. C., died May 10 of a heart attack at Doctors Hospital, in that city.

Mr. Fort's last public appearance was May 8 before the House Interstate Commerce subcommittee which was holding hearings on bills to implement recommendations of President Eisenhower's Cabinet Committee on Transport Policy and Organization (Railway Age, May 14, p. 11). When the subcommittee met May 11, its chairman, Representative Harris of Arkansas, paid tribute to Mr. Fort. Like tributes came from other members present, including the chairman of the parent committee, Representative Priest of Tennessee. George E. Leighty, chairman of the Railway Labor Executives' Association, also joined in the tribute, as did counsel for other participants in the hearings. The hearings were then adjourned out of respect for the memory of Mr. Fort.

Henry E. Poulter, 68, retired vice-president—traffic of the Western Pacific, died May 6.



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Current Publications

PRESSURE TREATED TIMBER FOUNDATION PILES, by W. D. Keeney, Ralph H. Mann and C. Miles Burpee. 66 pages, illustrations, tables. American Wood Preservers Institute, 111 W. Washington st., Chicago 2. \$1.

This comprehensive report, based on documented case histories, has been prepared by the engineering staff of the American Wood Preservers Institute (formerly the Service Bureau of the American Wood Preservers Association). Included are several pile driving formulae for figuring proper relation of bearing loads for piles, weight of hammer and weight of pile; means for determining safe load capacity of each pile and group of piles; methods of meeting problems raised by uplift forces and lateral forces; protective devices to protect wood pile heads during driving; excerpts from principal basic building codes; ASTM specifications for selecting timber piles; AWP standards for preservative treatment; and test pile driving and test loading. A table gives details of important structures founded on creosoted timber piles in various parts of the country.

BULLETIN NO. 93. 140 pages, illustrations, maps. Railway & Locomotive Historical Society, Baker Library, Harvard Business School, Boston. \$2 to members; \$3 to non-members.

Frank H. Spearman, the Zane Grey of railroading, is the title of Frank P. Donovan's lead-off article in this issue. Dr. C. F. H. Allen concludes his study of the Pittsburgh, Shawmut & Northern, and all its associated and predecessor roads; G. Murray Campbell contributes a paper on the Lincoln inaugural and funeral trains; William D. Edson, a paper on the U.S.R.A. locomotives; and Franklin A. King, a paper on logging railroads of northern Minnesota. Charles E. Fisher gives a brief sketch of the Wabash and its locomotives. Two letters to the editor comment on Fred Jukes' series of articles on valve gears.

RALPH BUDD: RAILROAD ENTREPRENEUR, by Richard C. Overton. The Palimpsest, November, 1955. State Historical Society of Iowa, Iowa City, Ia. Single copies, 15¢.

A 64-page illustrated biography of Ralph Budd, former president of the Great Northern and the Burlington.

FILMS

TRAVEL, SAFETY AND AGRICULTURAL FILMS Added to the Union Pacific Motion Picture Film Library. Union Pacific Railroad, Motion Picture Bureau, 1416 Dodge st., Omaha 2, Neb. Available on loan to interested groups.

The 16mm, color and sound safety film titled, "Days of Our Years" shows the painful and tragic results of accidents, not only on the victims, but also on all others involved.

"Summer in Sun Valley" is an action-packed sound and color portrayal of summer fun activities at the famous

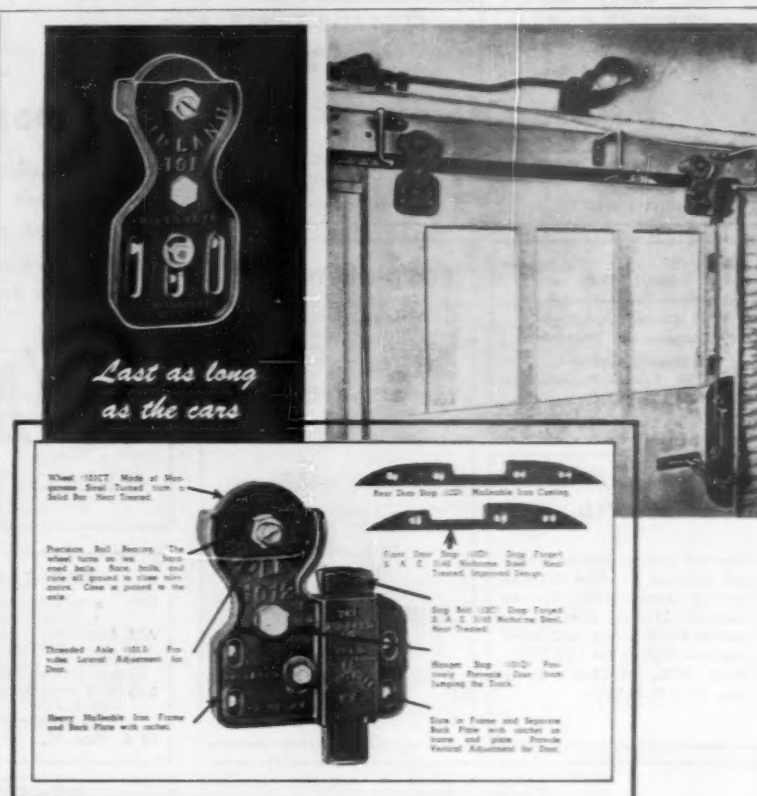
Idaho resort owned by the UP. The film uses a "boy meets girl" plot to demonstrate the myriad activities for summer vacationers at the resort. It is the fourth Sun Valley film. A fifth, detailing winter sports and activities, is being filmed.

Two new agricultural films recently were added to the film library. "Fresh from the West" is a live story of the vegetable industry in the western United States and "Saving Little Pigs" gives the latest information on proper care and handling of little pigs. The UP has 24 other films on western scenic, agricultural, safety and industrial subjects.

PAMPHLETS

HOW TO CALCULATE CHANGES IN RATES WHICH WILL IMPROVE RAILROAD TRAFFIC VOLUME AND NET EARNINGS, 12 pages. Walter B. Wright, 2972 Brighton Road, Shaker Heights 20, Ohio. Free.

This is a reprint of the essay which won first prize in the recent New York Railroad Club contest. In it Mr. Wright, who is staff assistant-finance, Chesapeake & Ohio Railway, outlines the details of a method for determining whether or not rate reductions of varying magnitudes will increase earnings—and, if so, by how much.



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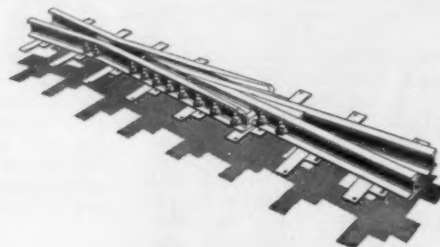
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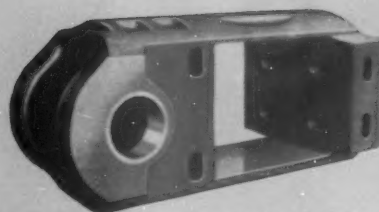
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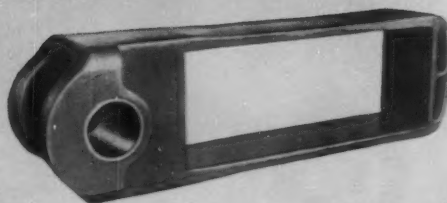
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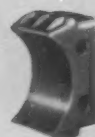


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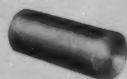
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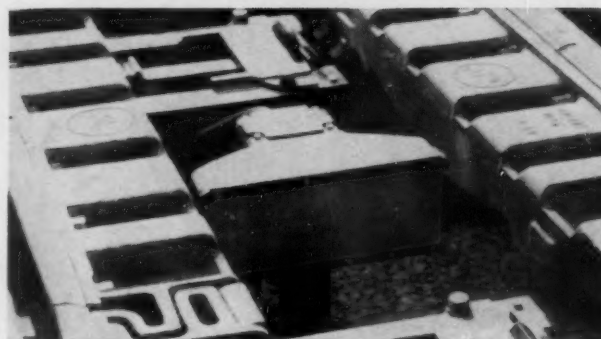
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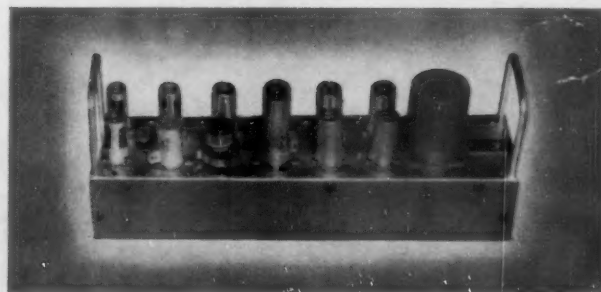
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